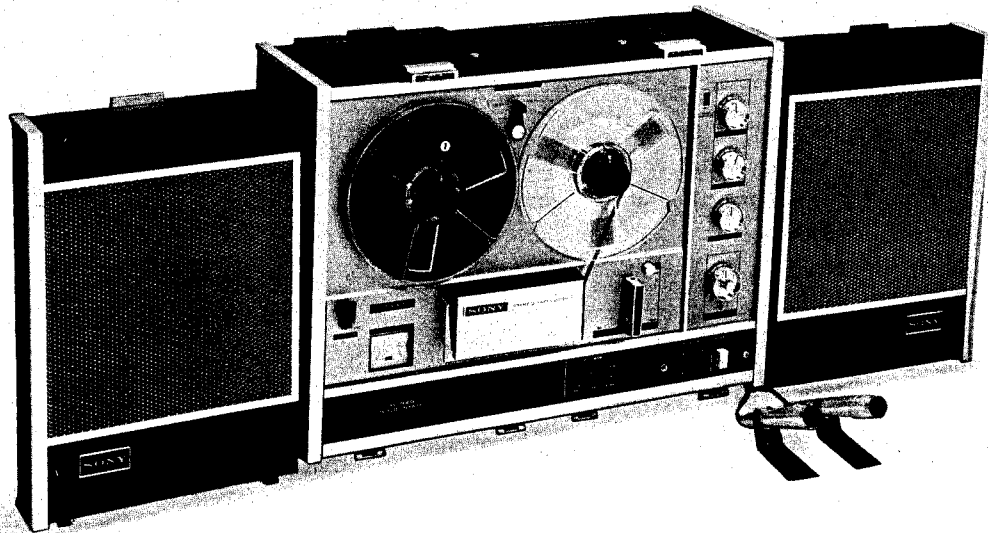


# TC-540



## Specifications

**Power Requirements:** AC 50/60 Hz, 100, 110, 117, 125, 220, & 240 V, 65W

**Reel Size:** 7 inches or smaller

**Tape Speeds:** 7½ ips, 3¾ ips, 1⅞ ips (19 cm/s, 9.5 cm/s, 4.8 cm/s)

**Frequency Response:** 30~20,000 Hz at 7½ ips (19 cm/s)  
30~13,000 Hz at 3¾ ips (9.5 cm/s)  
30~10,000 Hz at 1⅞ ips (4.8 cm/s)

**Flutter and Wow:** Less than 0.09% at 7½ ips (19 cm/s)  
Less than 0.12% at 3¾ ips (9.5 cm/s)  
Less than 0.16% at 1⅞ ips (4.8 cm/s)

**Signal-to-Noise Ratio:** Better than 50 dB

**Harmonic Distortion:** Less than 2% at normal recording level

**Recording Time:** 4-Track stereophonic  
(with 1,800 ft tape) 1 hr 30 min at 7½ ips (19 cm/s)  
3 hrs at 3¾ ips (9.5 cm/s)  
6 hrs at 1⅞ ips (4.8 cm/s)

4-Track monophonic  
3 hrs at 7½ ips (19 cm/s)  
6 hrs at 3¾ ips (9.5 cm/s)  
12 hrs at 1⅞ ips (4.8 cm/s)

**Inputs:** Microphone Inputs ..... (2)  
Impedance, 600Ω  
Maximum Sensitivity, -73 dBs (0.19 mV)  
Auxiliary Inputs ..... (2)  
Impedance, 100kΩ

Maximum Sensitivity, -20 dBs (0.078 V)  
Rec./P.B. Connector ..... (1)

Impedance 10kΩ

Maximum Sensitivity -40 dBs (7.8 mV)

**Outputs:** Line Outputs..... (2)

Impedance 100kΩ

Output Level 0 dBs (0.775 V)

External Speaker Outputs ..... (2)

Impedance 8Ω

Output Level 11.2 dBs (2.83 V)

Headphone Outputs ..... (2)

Impedance 8 kΩ

Output Level 11.2 dBs (2.83 V)

Rec./P.B. Connector ..... (1)

Impedance 10 kΩ

Output Level 0 dBs (0.775 V)

**Power Output:** 5 watts Max. per channel

Music power 20 watts with both channels

**Speakers:** 4×8" (10×20 cm); Cabinet speaker... (2)  
4" (10 cm); Lid speaker ..... (2)

**Transistors:** 24 pcs

**Diodes:** 8 pcs

**Dimensions:** 19⅞" (W)×9⅞" (H)×15⅞" (D)  
(500×252×391 mm)

**Weight:** 41 lbs. 10 oz. (19 kg)

# SONY®

## SERVICE MANUAL

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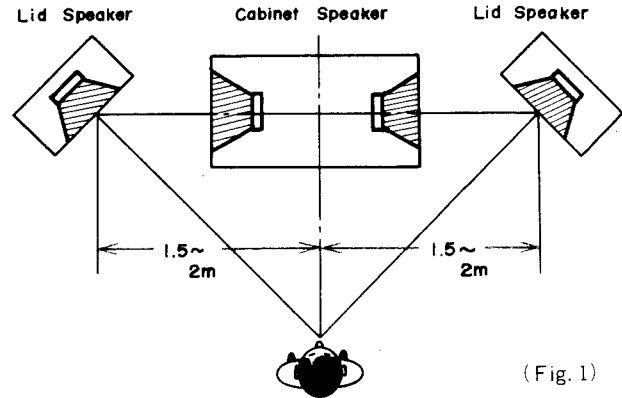
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**General Description**

Model TC-540 is a high-quality, solid state tape recorder designed with the up-to-date engineering techniques of SONY. Its mechanical advantages include the capability of being used in either horizontal or vertical position, 3-speed selector, retractable pinch roller, lids which can be put on even if 7-inch reels are mounted on the turntables, and scrape filter which prevents FM noise. The electrical advantages of this machine are found in 4-speaker system, through-speaker-monitoring system, bass-treble separate tone control, automatic shut-off switch and noise suppressor switch. In addition, Model TC-540 is internally provided with 2-head sound-on-sound circuit which is used for sound-on-sound recording from the left channel to the right channel, and vice versa.

**Technical Features****1. SPEAKER SYSTEM**

The speaker system of the TC-540 tape recorder consists of cabinet speakers, 4"×8" (10 cm×20 cm), serving as woofers, and lid speakers, 4"×4" (10 cm×10 cm), serving as tweeters. The lid speakers are provided with 3-m cords. When the lid speakers are not used, the cabinet speakers are capable of covering the entire audio frequency band in reproduction.



(Fig. 1)

The typical speaker arrangement of TC-540 is as shown in Fig. 1. The cabinet speakers having no directivity contribute much to quality reproduction in the low frequency range. The cross-over frequency of the speakers is 300 Hz to 400 Hz. Introduced hereunder are other two methods of speaker arrangement available for the stereo tape recorder. Reference can be made to these methods to understand how advanced the present TC-540 speaker arrangement is.

**METHOD 1** Two lids, each provided with one speaker, are used. The cabinet speakers are not used. In this method, a lid for a woofer must have a larger speaker box. The present lid, however, is limited in speaker box size and, hence, poor-quality reproduction will result in the low frequency range.

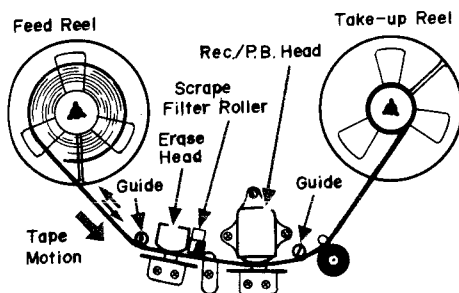
**METHOD 2** Two speakers are used, one being installed to the lid and the other to the cabinet. The lid and cabinet, however, differ from each other in speaker box size, resulting in difference in tone quality.

In the TC-540 speaker arrangement, every possible deficiency is corrected. The advantage that small-size lid speakers may be used offers compact and lightweight design of the machine.

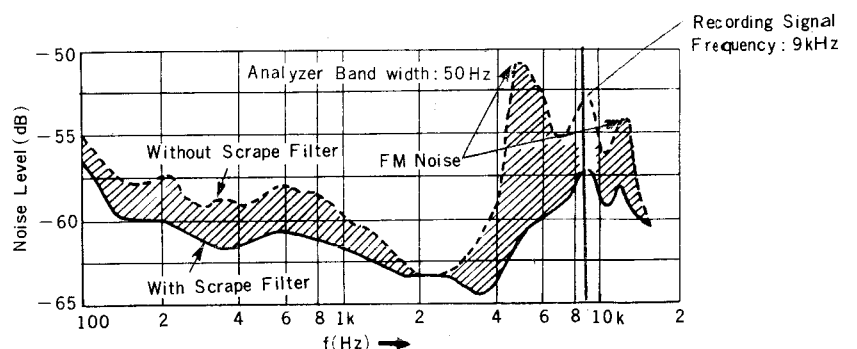
## 2. SCRAPE FILTER

Generally, the tape vibrates longitudinally with its natural frequency when it is transported. Vibration frequency (cps) bears a close relation to the modulus of longitudinal elasticity, specific gravity and span of the tape. Such a vibration is negligible when no signal is recorded. However, if any high-frequency signal is recorded, it is modulated to bring about sidebands similar to tape noise on both sides of the signal frequency. These sidebands are heard as FM noise (something like hiss noise) having a certain level when listening to them carefully. They can be discriminated from tape noise because they are changed in volume when the record signal frequency is shifted.

It has often been reported that an input signal whose frequency is higher than 5 kHz cannot be reproduced with clear sound when it is recorded. This complaint seems to have directed against FM noise due to these sidebands. The scrape filter (roller) is located between the erase head and the record/playback head as shown in Fig. 2. In operation, it decreases the span of the tape and increases vibration frequency 3 or 4 times. When this frequency is increased beyond the audible range, the node of vibration of the tape is brought close to the record/playback head to prevent vibration of the tape. Under such a condition, the sidebands are eliminated and, in turn, FM noise is reduced over nearly entire frequency range as shown in Fig. 3.



(Fig. 2)



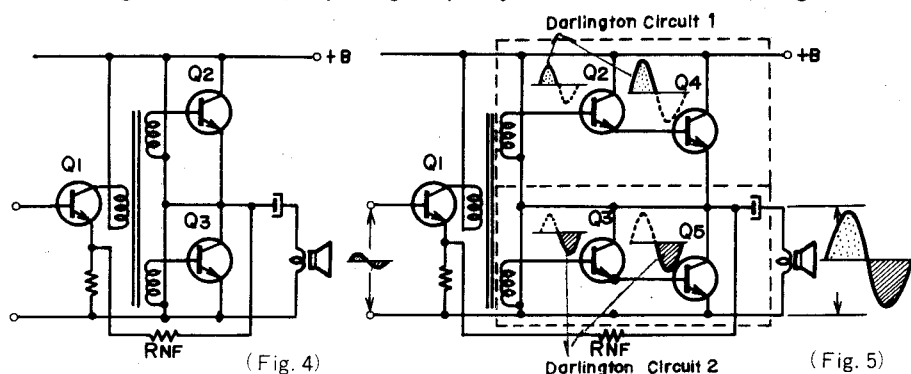
(Fig. 3)  
Noise Level when recording 9 kHz signal.

## 3. POWER AMPLIFIER

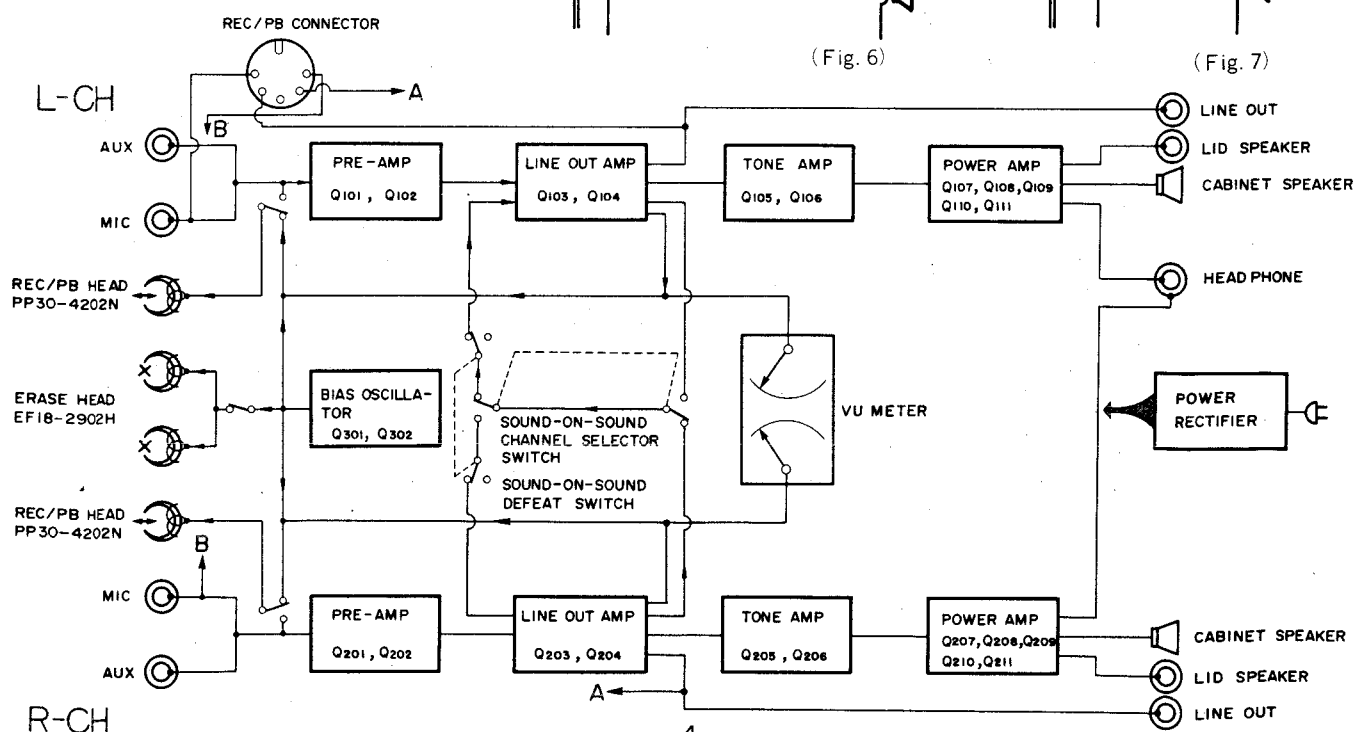
The power amplifier of Model TC-540 is designed by modifying the ordinary SEPP OTL circuit (shown in Fig. 4 & 5) and successfully adding Darlington circuits (shown in Fig. 5) thereto. The function of Darlington circuit is as follows:

The details of Darlington circuit are shown in Fig. 6. In this circuit, two NPN type transistors ( $Q_2$  and  $Q_4$ ) are connected in series with each other. The collector current (emitter current) of  $Q_2$  becomes the base current of  $Q_4$ . The base current ( $I_{B1}$ ) of  $Q_2$  is amplified at  $h_{fe1}$  (the forward-current transfer ratio of  $Q_2$ ), and flows to  $Q_4$ , where it becomes the base current ( $I_{B2}$ ). This current is again amplified at  $h_{fe2}$  (the forward-current transfer ratio of  $Q_4$ ). The overall forward-current transfer ratio ( $h_{fe}$ ) is written as  $h_{fe} = h_{fe1} \times h_{fe2}$

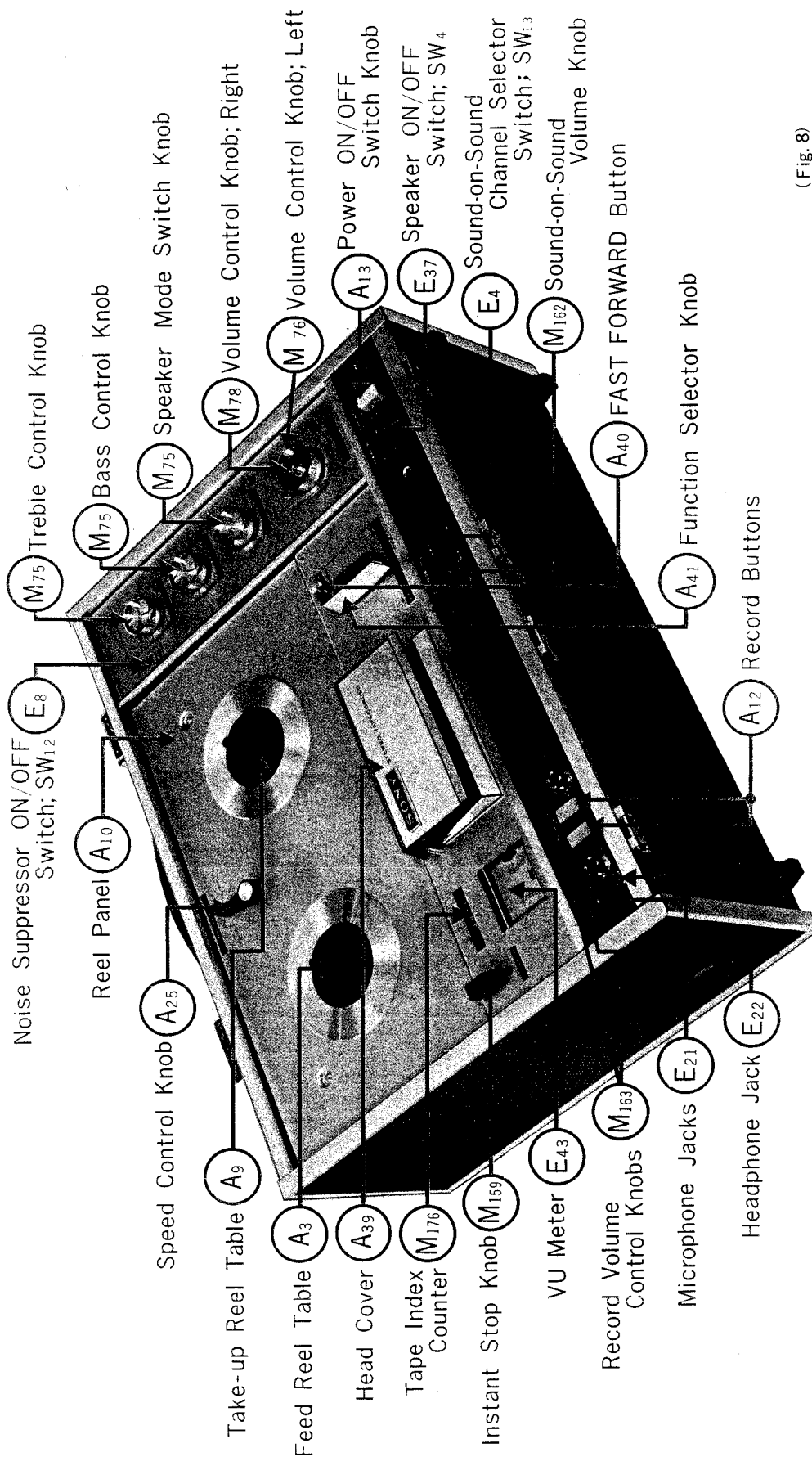
Hence, Darlington circuit is in one sense a transistor in which  $Q_2$  and  $Q_4$  are combined to increase  $h_{fe}$  to a great extent (Fig. 7). Darlington circuit shown in Fig. 5 provides the same function. Darlington circuit (1) amplifies the positive half and Darlington circuit (2) the negative half of the cycle, thereby supplying a greatly amplified output to the load (speaker). It can rightly be said, therefore, that the power amplifier provided with such Darlington circuits is capable of employing a more compact driver transformer without getting faulty on the performance characteristics. Such a high gain amplifier makes it possible to apply a large amount of negative feedback, improving frequency characteristic and reducing distortion.



## Block Diagram

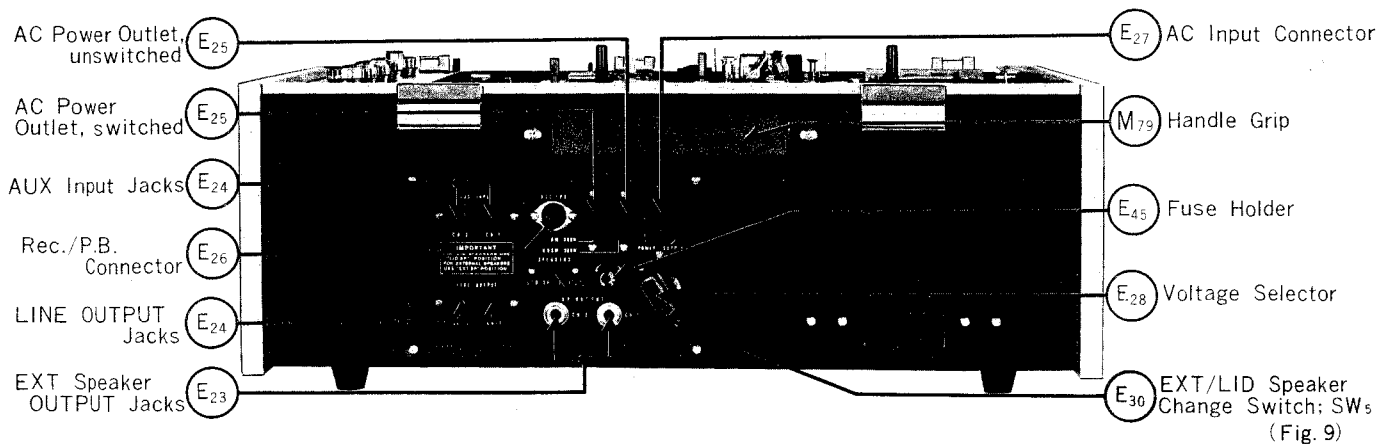


# Cabinet Top View

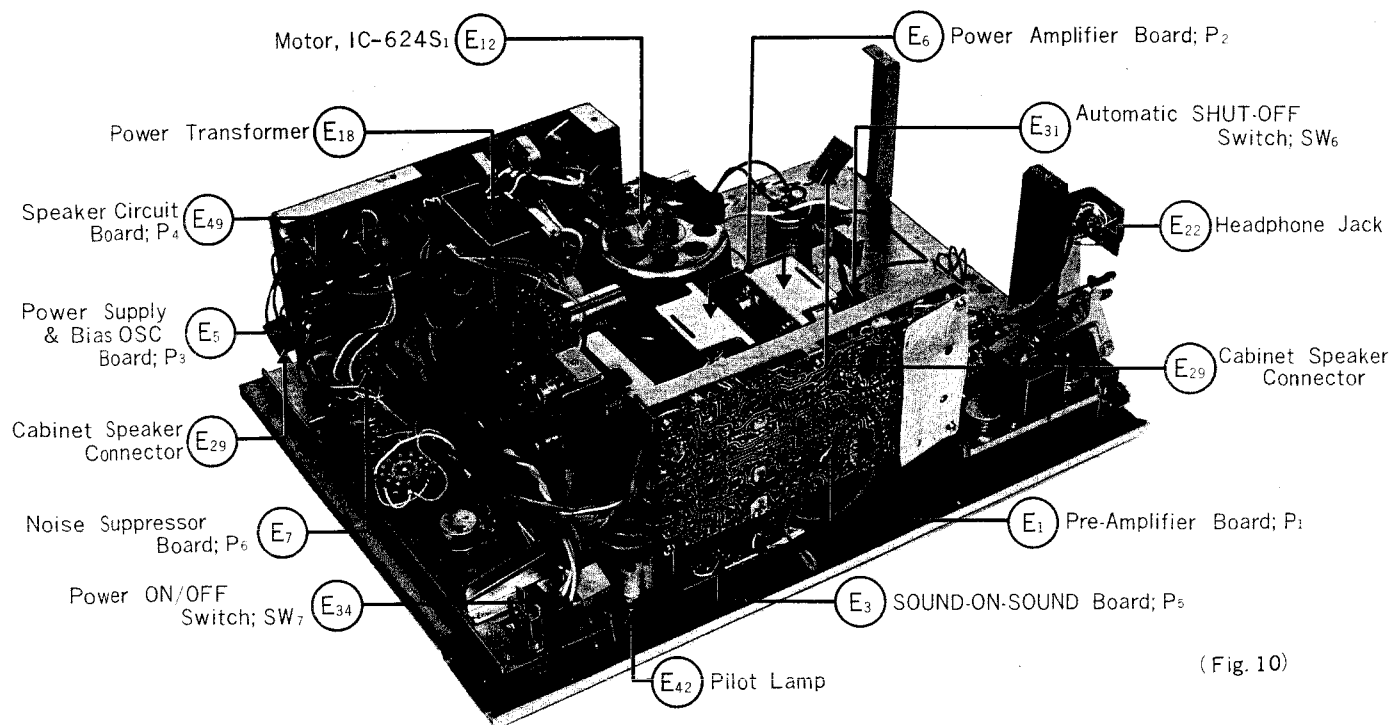


(Fig. 8)

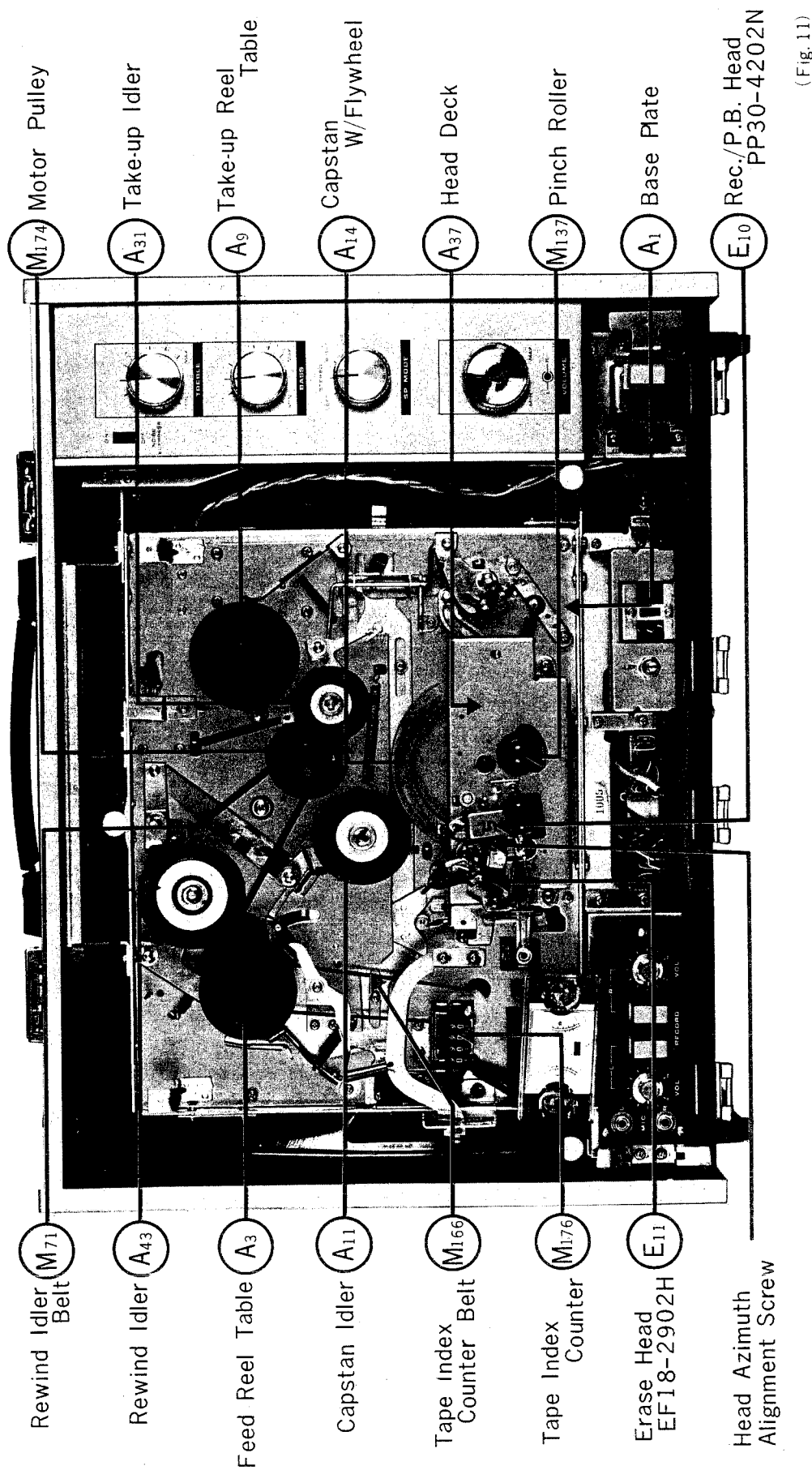
**Cabinet Back View**



**Chassis Bottom View**



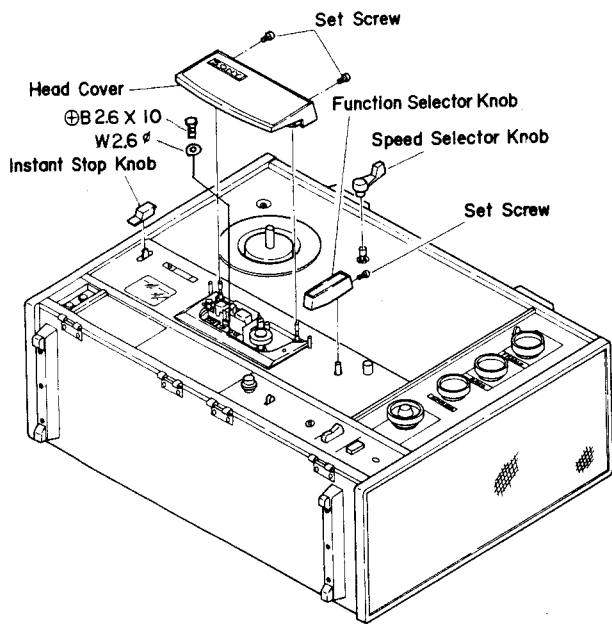
Chassis Top View



(Fig. 11)

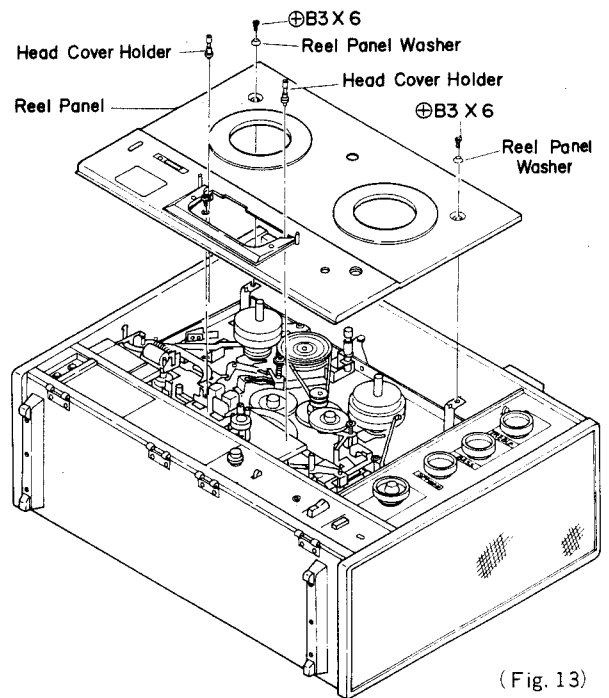
**Method of Disassembling the Set**

**Removal of Knobs and Head Cover**



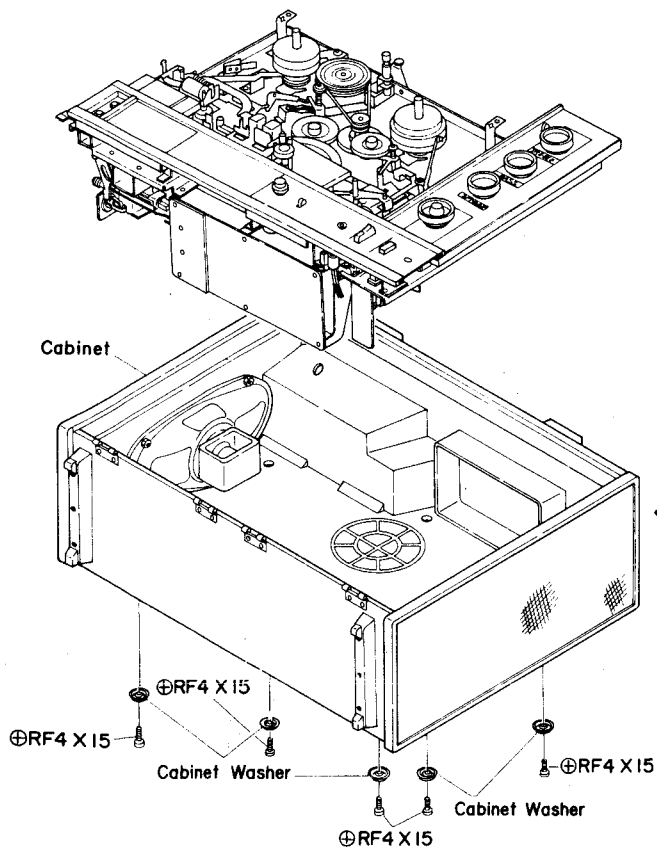
(Fig. 12)

**Removal of Reel Panel**



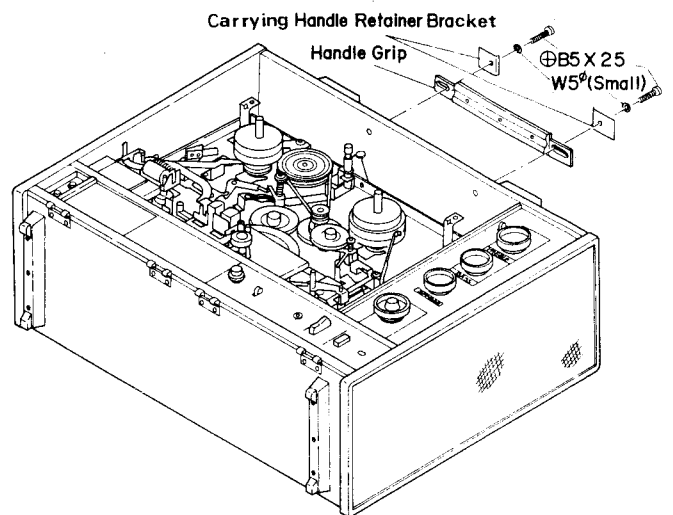
(Fig. 13)

**Removal of Cabinet**



(Fig. 15)

**Removal of Carrying Handle**



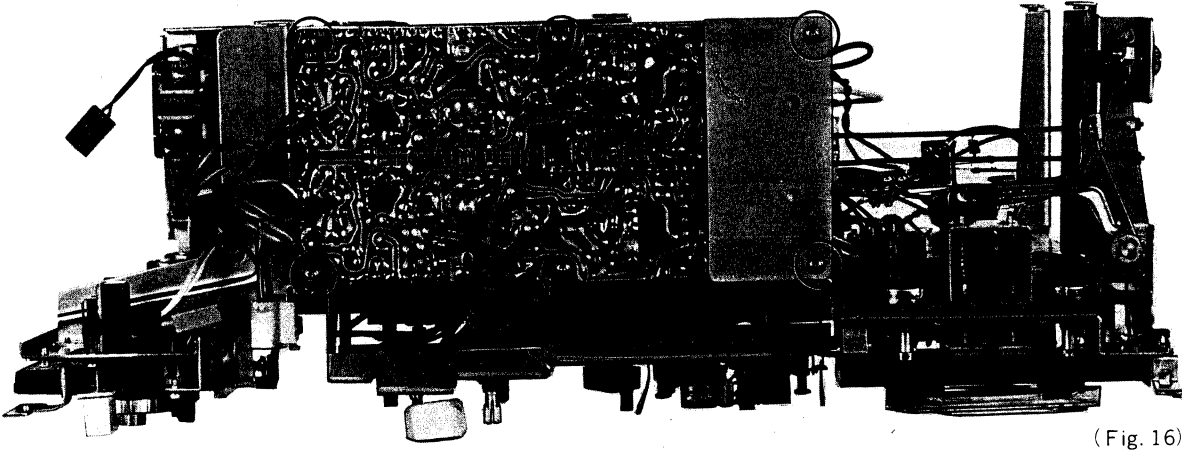
(Fig. 14)



Removal of Mounted Circuit Boards

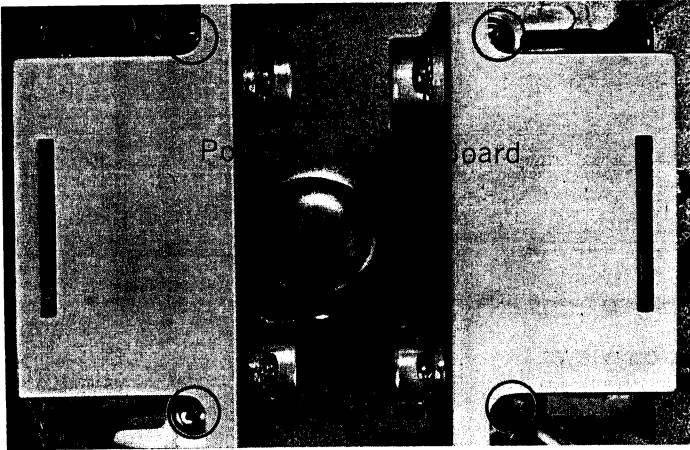
1. Pre-Amplifier Section

Pre-Amplifier Board can be removed by unscrewing the Screws encircled. (Fig. 16)



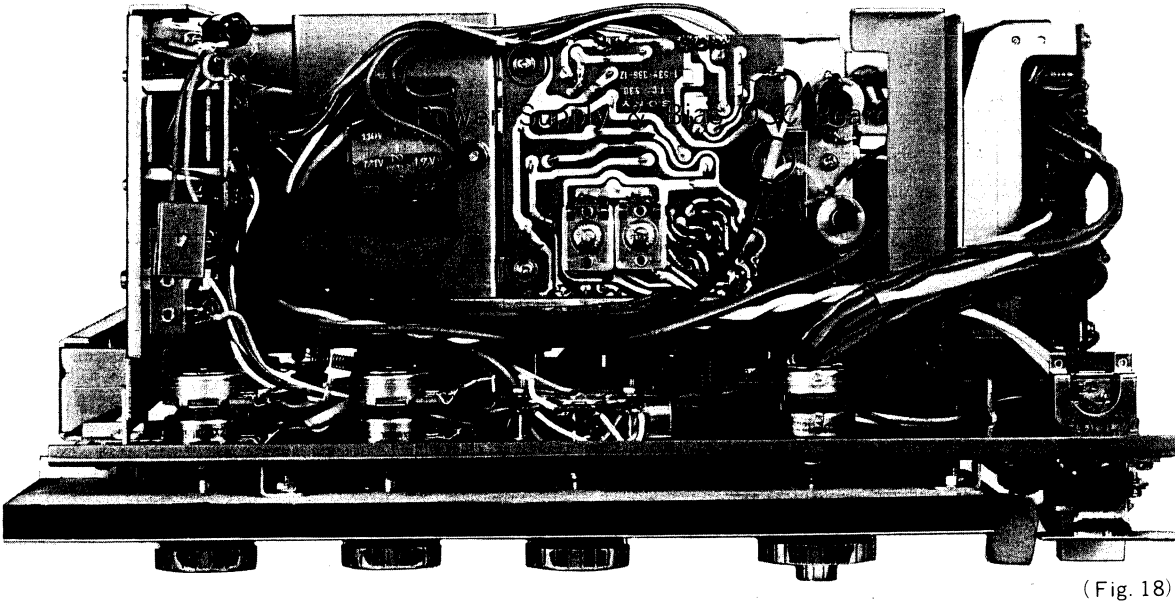
2. Power Amplifier Section

Power Amplifier Board can be removed by unscrewing the Screws encircled. (Fig. 17)



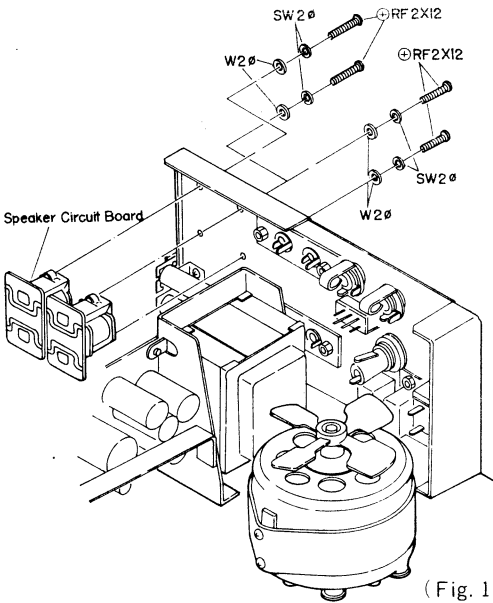
3. Power Supply & Bias OSC Section

Power Supply & Bias OSC Board can be removed by unscrewing the Screws encircled. (Fig. 18)



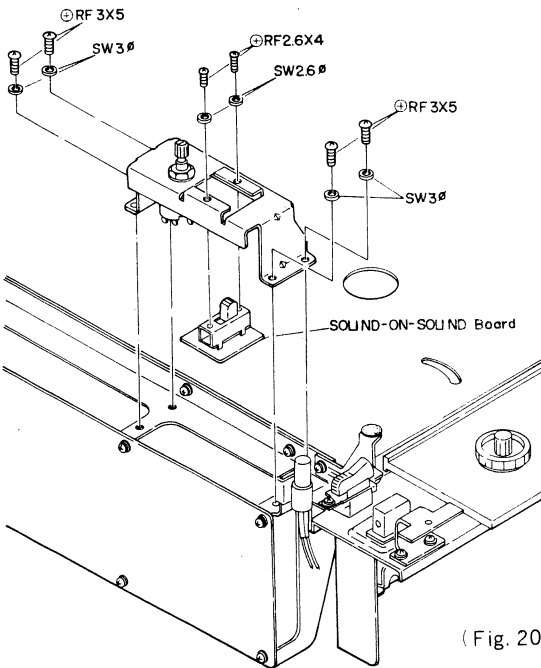
4. Speaker Circuit Section

Speaker Switch Board can be removed by unscrewing the Screws. (Fig. 19)



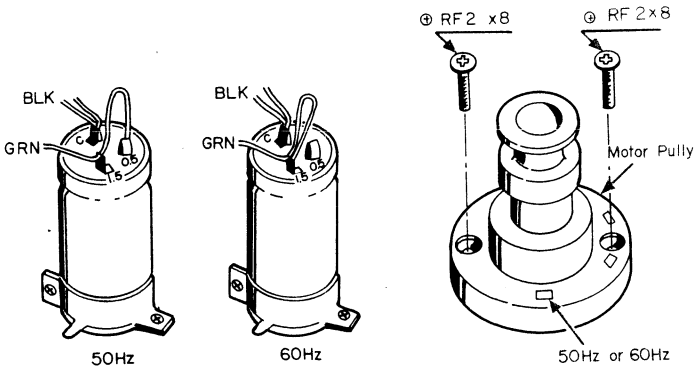
5. SOUND-ON-SOUND Section

SOUND-ON-SOUND Board can be removed by unscrewing the Screws. (Fig. 20)



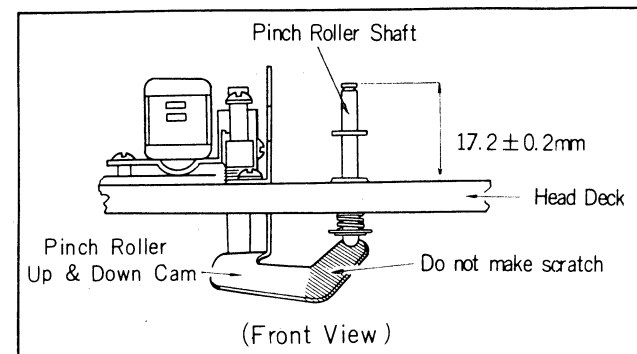
Modification to Different Household Frequency

|  | For 50 Hz                                | For 60 Hz                     |
|--|--|-------------------------------|
| 1. Connection between terminals of the Metalized Paper Capacitor | Connected<br>(1.5 $\mu$ F ~ 0.5 $\mu$ F) | Disconnected<br>(1.5 $\mu$ F) |
| 2. Motor Pulley Part Number                                      | 3-444-064                                | 3-444-063                     |



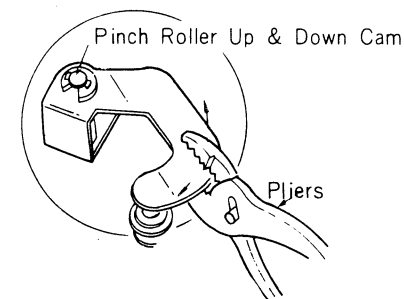
Mechanical Adjustment

# A Pinch Roller Shaft Height Adjustment



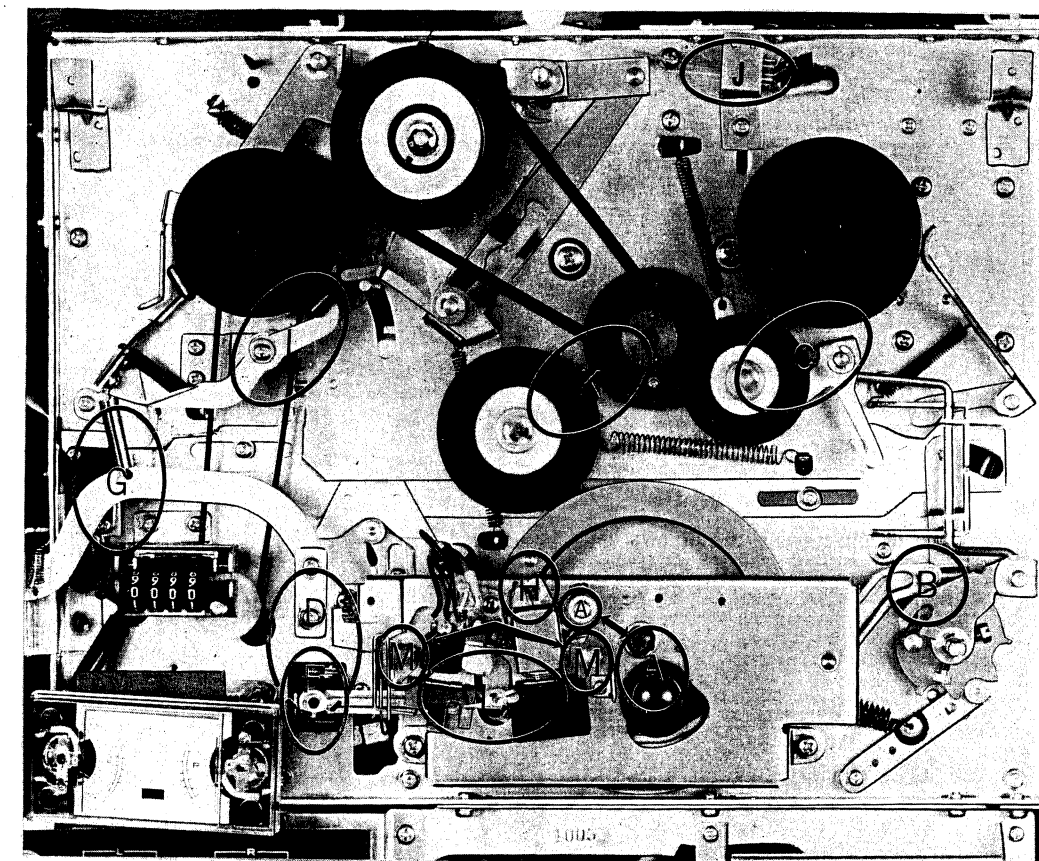
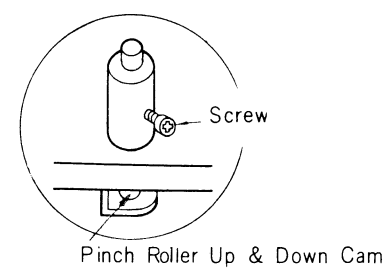
① When adjusting roughly

Adjust by bending with pliers as shown below.



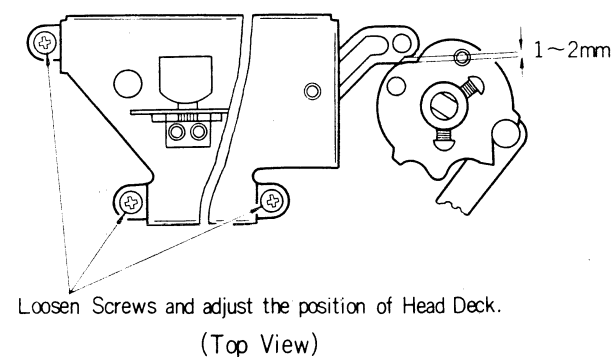
② When adjusting accurately

Adjust to obtain  $17.2 \pm 0.2\text{mm}$  by loosening Screw and moving Shaft up and down. After fastening Screw, apply Lock Paint.

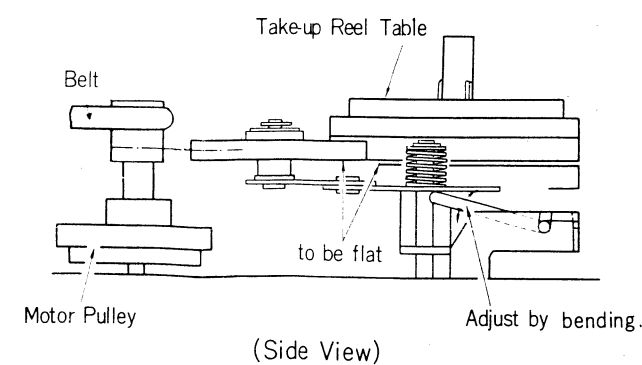


Top View

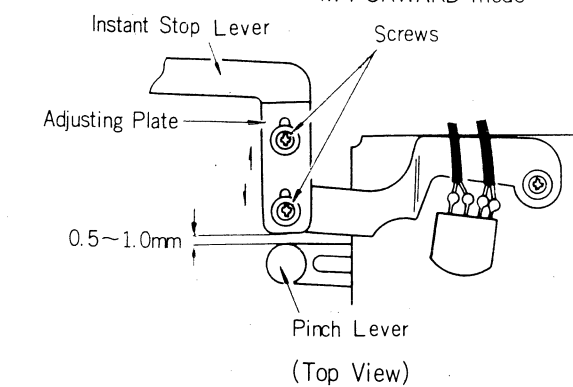
# B Head Deck Position Adjustment in FORWARD mode



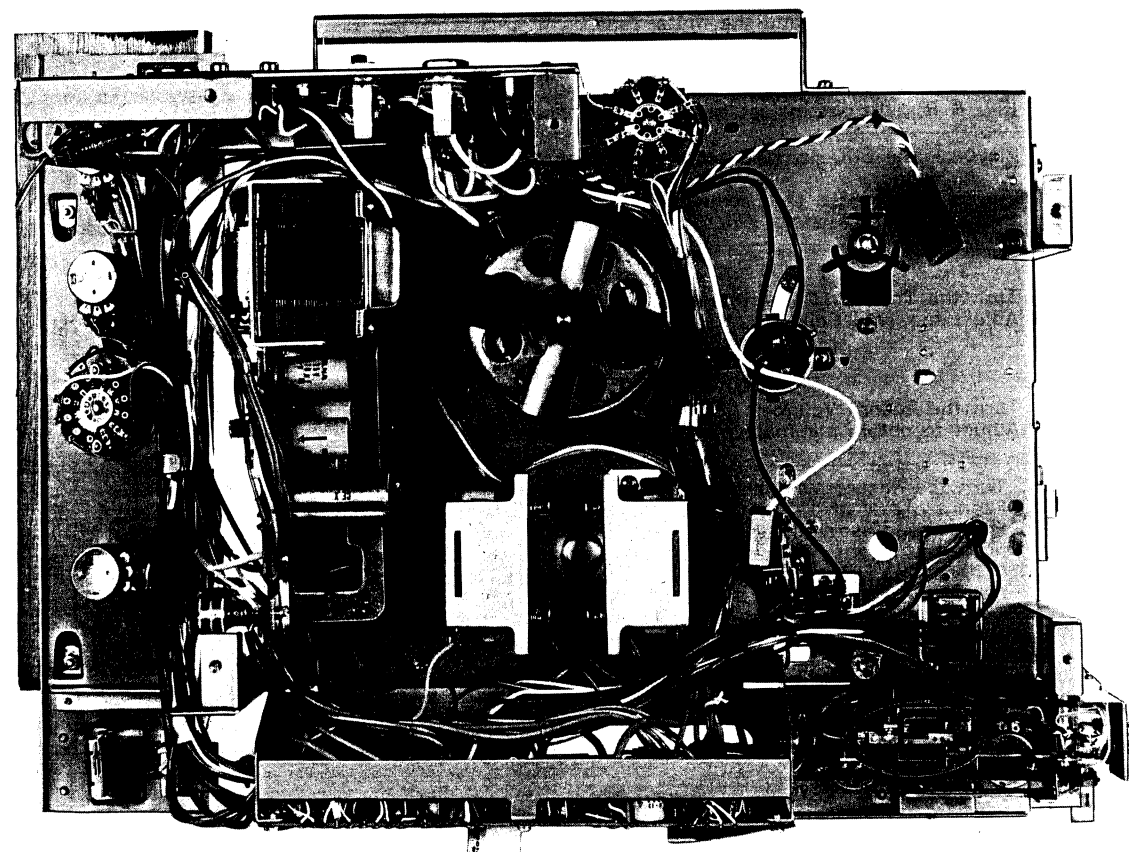
# C Take-up Idler Height Adjustment in FAST FORWARD mode



# D Instant Stop Lever Adjustment in FORWARD mode

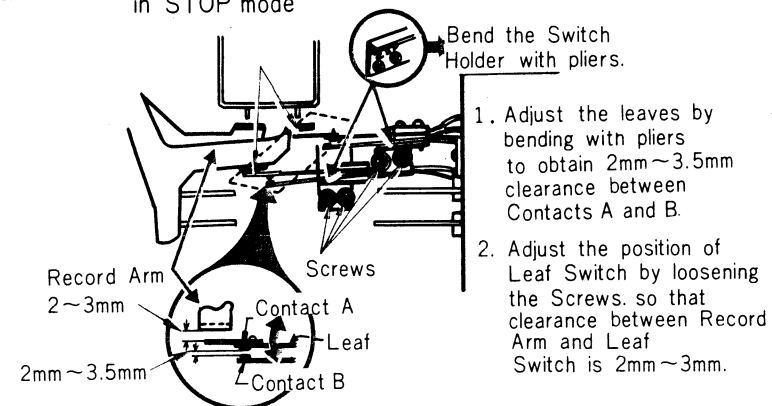


Loosen Screws and adjust the position of Adjusting Plate.

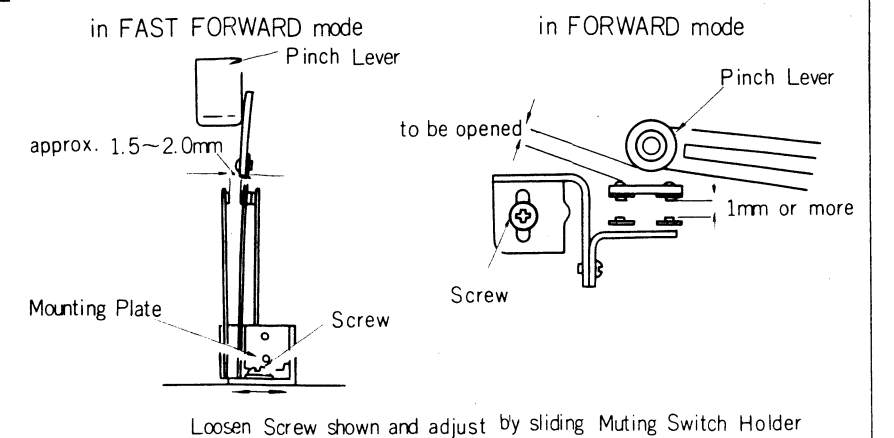


Bottom View

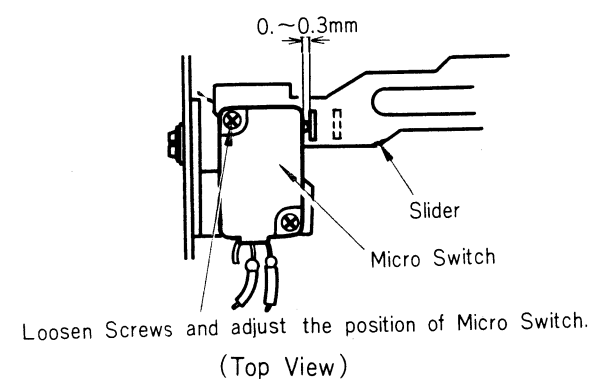
### E Monaural Record Switch Adjustment. in STOP mode



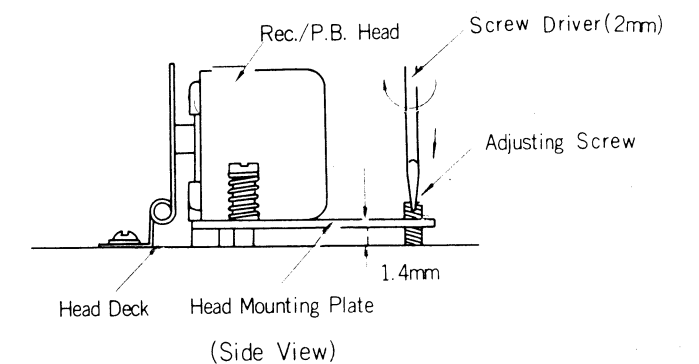
### F Muting Switch Adjustment



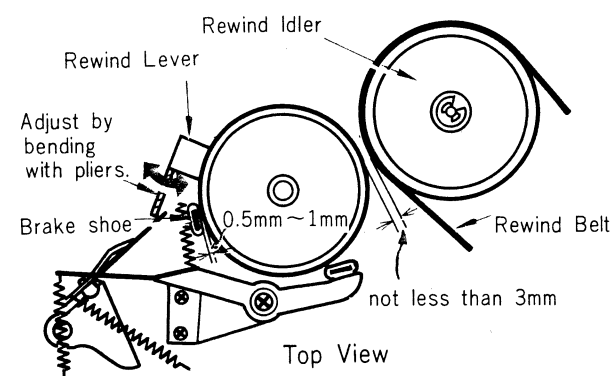
### G Bias ON/OFF Switch Position Adjustment in FORWARD mode



### H Head Mounting Plate Height Adjustment

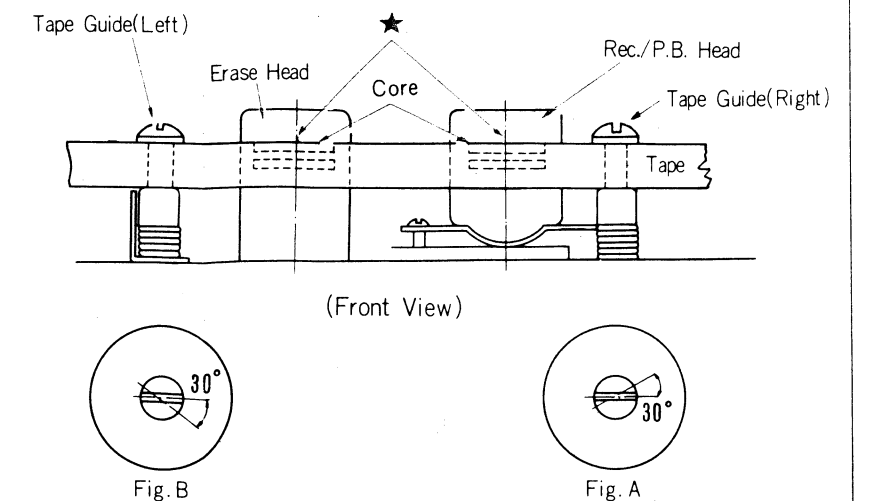


### I Feed Reel Tadle Brake Position Adjustment in FORWARD mode

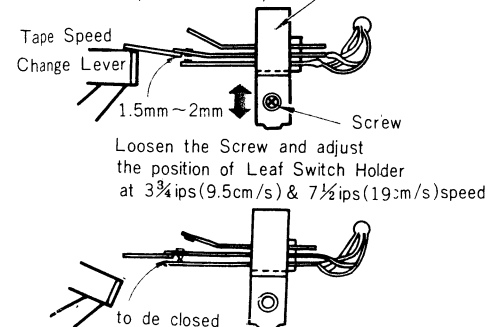


### M Tape Guide Ajustment in FORWARD mode

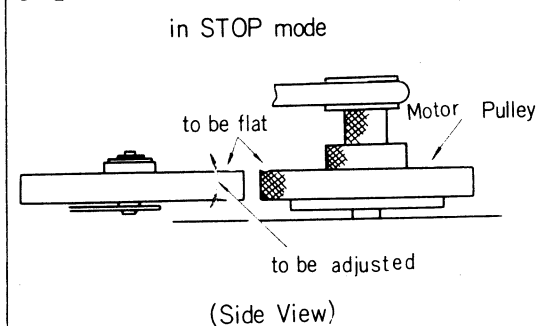
1. Keep Head Shield Plate laying down forward by finger tip.
2. Adjust Tape Guide so that Cores are just visible above the top edge of Tape. (★)
3. Turn Tape Guide(Right) counterclockwise by approx. 30 degrees as shown in Fig. A and the Tape Guide(Left) clockwise by approx. 30 degrees as shown in Fig. B.



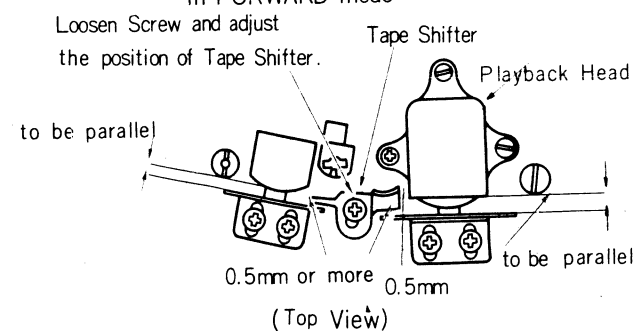
### J Bias Control Switch Position Adjustment at 1 7/8 ips(4.8cm/s) speed



### K Capstan Idler Position Adjustment



### L Tape Shifter Adjustment in FORWARD mode

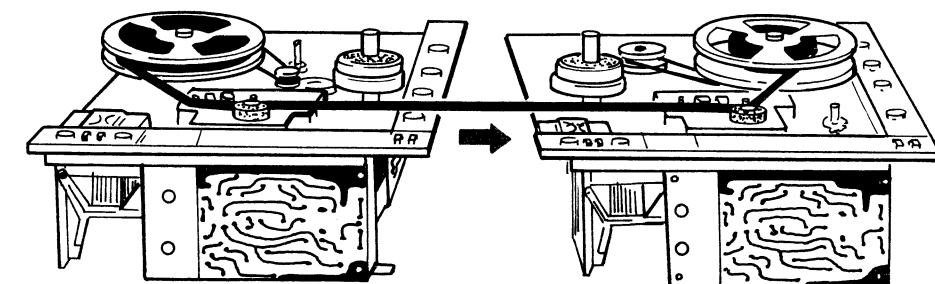


# Electrical Adjustment

| Item  | Signal Source  | Output Connection                               | Mode              | Adjust  | Remarks  |
|---|--|---|-------------------|---|--|
| 1. Playback Azimuth Alignment                           | 10 kHz 1st section of SONY Alignment Tape, J-19-F <sub>2</sub> | VTVM and 100kΩ Resistor in parallel to LINE OUT | Playback          | Azimuth Alignment Screw<br>See Fig. 22  | Adjust to obtain maximum reading on VTVM.  |
| 2. Playback Level Adjustment                            | 1 kHz 2nd section of SONY Alignment Tape, J-19-F <sub>2</sub>  | VTVM and 100kΩ Resistor in parallel to LINE OUT | Playback          | L-CH; R <sub>119</sub><br>L-CH; R <sub>219</sub><br>See Fig. 24   | Adjust Adjustable Resistors (R <sub>119</sub> & R <sub>219</sub> ) to obtain 0 dBs (0.775V) on VTVM.   |
| 3. Meter Level Adjustment                               | 1 kHz, -60 dBs (0.78 mV) to MIC INPUT                          | VTVM and 100kΩ Resistor in parallel to LINE OUT | Record            | L-CH; R <sub>140</sub> 5kΩ (B)<br>R-CH; R <sub>240</sub> 5kΩ (B)<br>See Fig. 24   | 1. Adjust the Record Volumes (R <sub>157</sub> & R <sub>257</sub> ) to obtain +1 dBs (0.89 V) on VTVM.<br>2. Adjust the Adjustable Resistors (R <sub>140</sub> & R <sub>240</sub> ) so that Level Meters indicate the boundary between the red zone and the white zone.  |
| 4. Playback Equalizer Adjustment (1); 7½ ips (19 cm/s)  | SONY Alignment Tape, J-19-F <sub>2</sub>                       | VTVM and 100kΩ Resistor in parallel to LINE OUT | Playback          | L-CH; R <sub>116</sub> 5kΩ (B)<br>R-CH; R <sub>216</sub> 5kΩ (B)<br>See Fig. 24   | 1. Playback 1kHz, 3rd section of Alignment Tape and measure its the response with VTVM.<br>2. Playback the 12.5kHz, (4th section) of Alignment Tape and adjust the adjustable resistors (R <sub>116</sub> & R <sub>216</sub> ) to obtain just the same response comparing with Step 1.   |
| 5. Playback Equalizer Adjustment (2); 3¾ ips (9.5 cm/s) | SONY Alignment Tape, J-9-F <sub>1</sub>                        | VTVM and 100kΩ Resistor in parallel to LINE OUT | Playback          | L-CH; R <sub>116</sub> 5kΩ (B)<br>R-CH; R <sub>216</sub> 5kΩ (B)<br>See Fig. 24   | 1. Playback the 500 Hz, (3rd section) of Alignment Tape and measure its the response with VTVM.<br>2. Playback the 5kHz, (4th section) and the 200 Hz, (6th section) of Alinment Tape and adjust the adjustable resistors (R <sub>116</sub> & R <sub>216</sub> ) to obtain just the same response comparing with Step 1.   |
| 6. Trap Coil Adjustment (1)                             |  | VTVM across REC/PB Head                         | Record            | L-CH; L <sub>103</sub> 20 mH<br>C <sub>303</sub> 30~200 P<br>R-CH; L <sub>203</sub> 20 mH<br>C <sub>304</sub> 30~200 P<br>See Fig. 23 | 1. Turn the Trimmer Capacitors (C <sub>303</sub> & C <sub>304</sub> ) clockwise fully.<br>2. Adjust the Trap Coils (L <sub>103</sub> & L <sub>203</sub> ) to obtain minimum reading of Bias Voltage Value on VTVM.   |
| 7. Trap Coil Adjustment (2)                             |  | VTVM and 100kΩ Resistor in parallel to LINE OUT | Record            | L-CH; L <sub>101</sub> 200μH<br>R-CH; L <sub>201</sub> 200μH<br>See Fig. 24   | 1. Turn the Record Volumes (R <sub>157</sub> & R <sub>257</sub> ) clockwise fully.<br>2. Adjust to obtain minimum reading on VTVM.   |
| 8. Recording Bias Adjustment                            | 1 kHz, -72 dBs (0.196 mV) to MIC INPUT                         | VTVM and 100kΩ Resistor in parallel to LINE OUT | Playback & Record | L-CH; C <sub>303</sub> 30~200 P<br>R-CH; C <sub>304</sub> 30~200 P<br><br>See Fig. 23   | 1. Turn the Record Volumes (R <sub>157</sub> & R <sub>257</sub> ) clockwise fully.<br>2. Feed a Signal of 1kHz, -72 dBs (0.196 mV) to MIC Input.<br>3. For Bias Adjustment, it is recommendable to use another tape recorder besides TC-540.<br>4. Make the height of their reel panels even and thread a blank tape. (See Fig. 21)<br>5. Connect a VTVM and 100kΩ resistor in parallel to LINE OUT of the other tape recorder.<br>6. Set TC-540 in RECORD mode and the other in PLAYBACK mode.<br>7. Set both machines to 7½ ips (19 cm/s) or 3¾ ips (9.5 cm/s).<br>8. Turn the trimmer capacitors fully counter-clockwise.<br>9. Turn the trimmer capacitors clockwise slowly.<br>10. The VTVM reading will go up, reaching maximum and then falling again. Continue to turn the trimmer capacitor until the VTVM reads 0.5 dB below from the maximum value. |

## NOTES:

- (1) The Adjustments should be made in numerical order.
- (2) The Adjustments should be performed in the tape speed of 19 cm/sec. (7½ ips), unless otherwise specified.
- (3) After adjustments, apply Lock Paint to the adjusted parts.
- (4) The following test equipment is to be provided for these adjustments.
  - Audio Generator
  - Attenuator (600 ohms)
  - V. T. V. M.
  - 100K ohm Resistor
  - SONY Alignment Tapes: J-19-F<sub>2</sub> & J-9-F<sub>1</sub>
  - Blank Tape
- (5) Bias Voltage across Heads measured with V.T.V.M. shall be:
  - Rec./P.B. Head: Approx. 40 volts
  - Erase Head: Approx. 80 volts

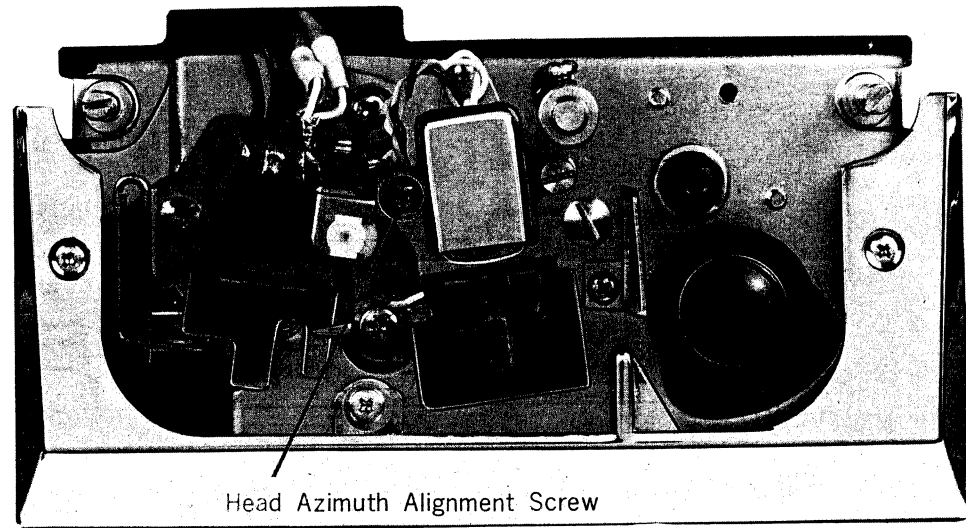


(Fig. 21)

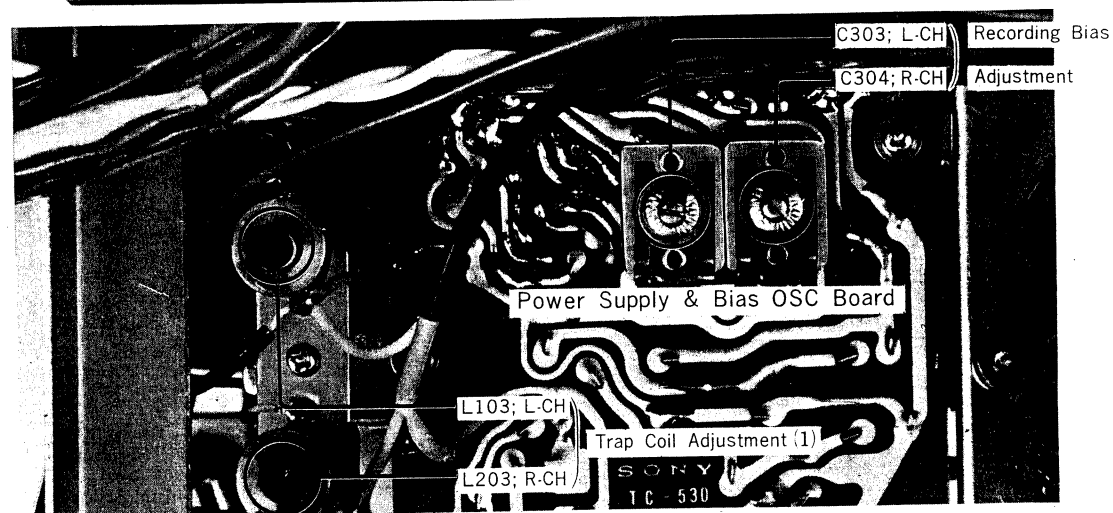
TC-540

Other Tape Recorder

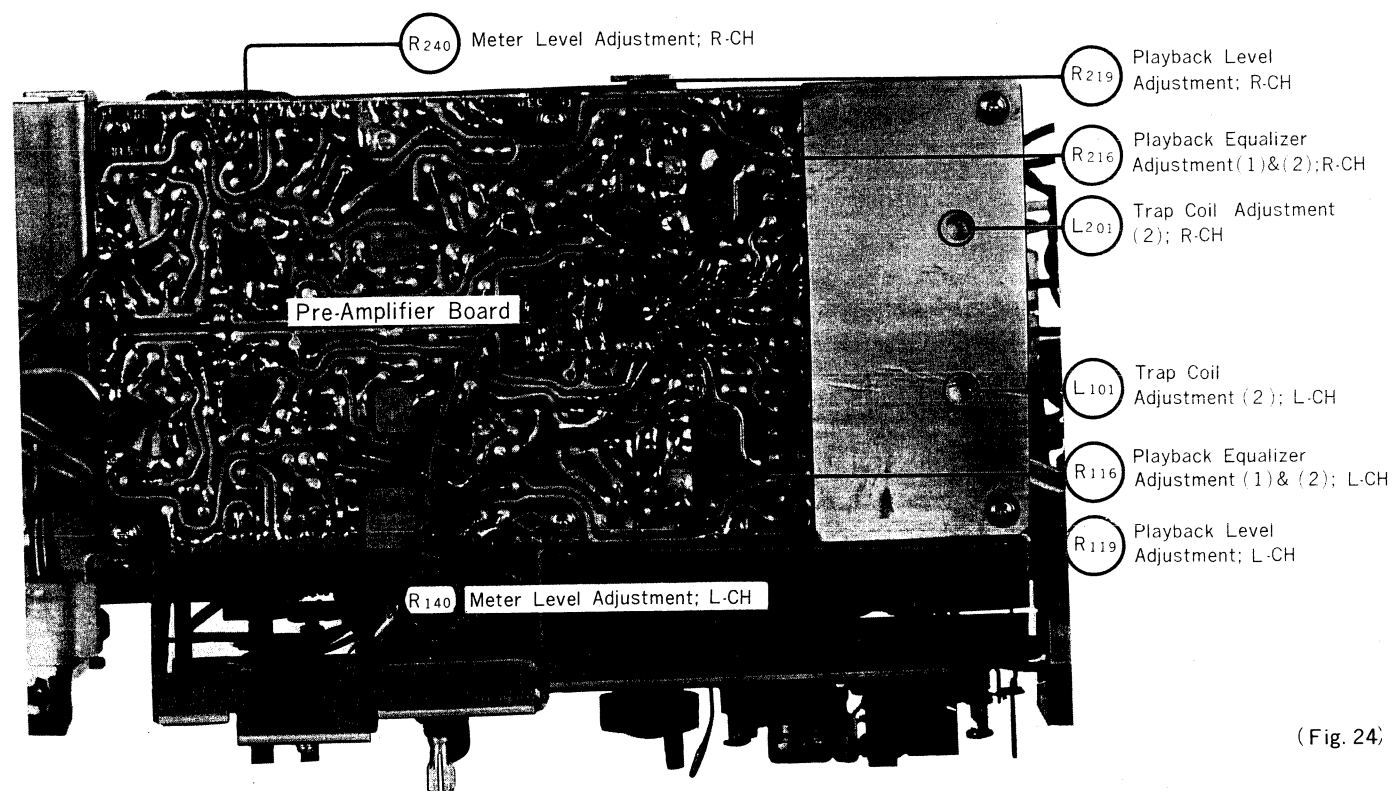
# TC-540 TC-540



(Fig. 22)



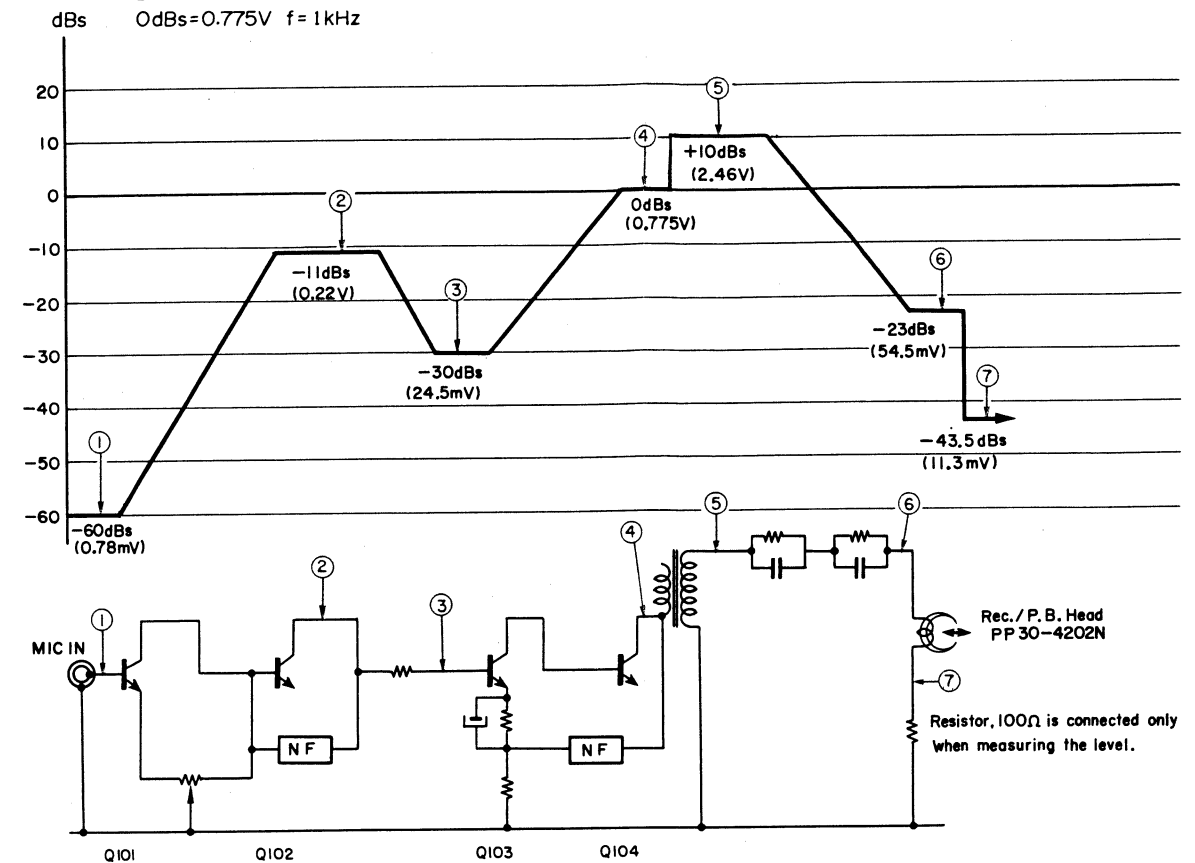
(Fig. 23)



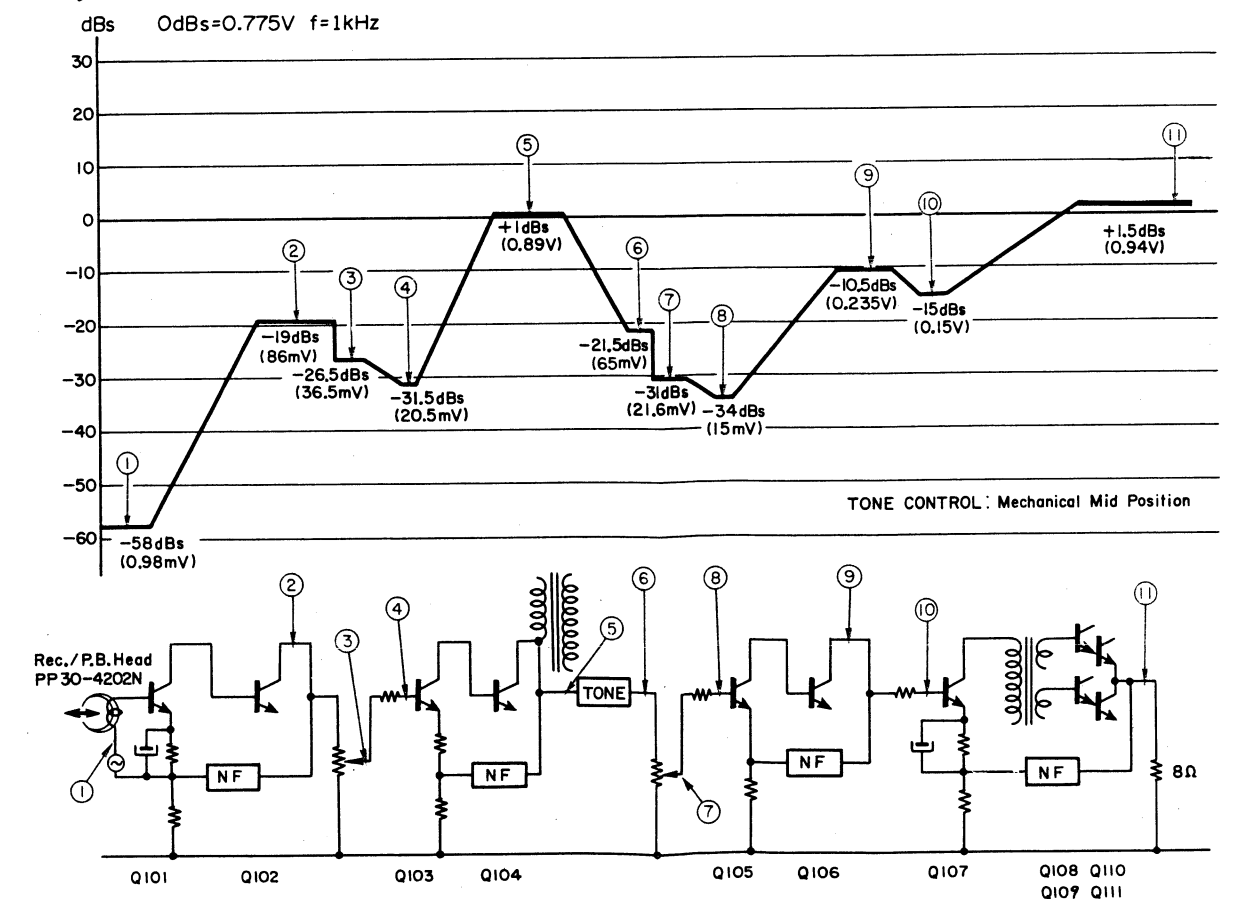
(Fig. 24)

## Level Diagram

### Recording



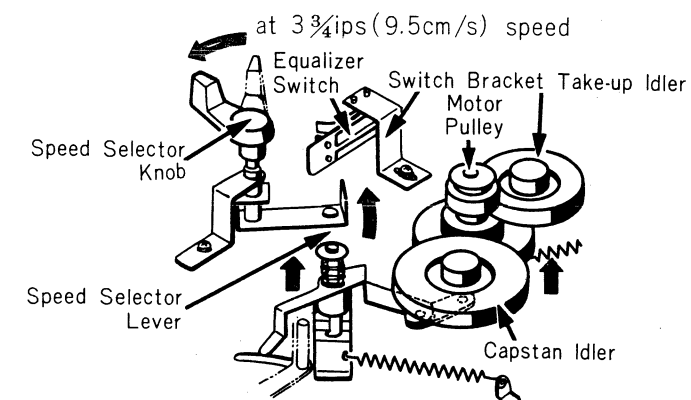
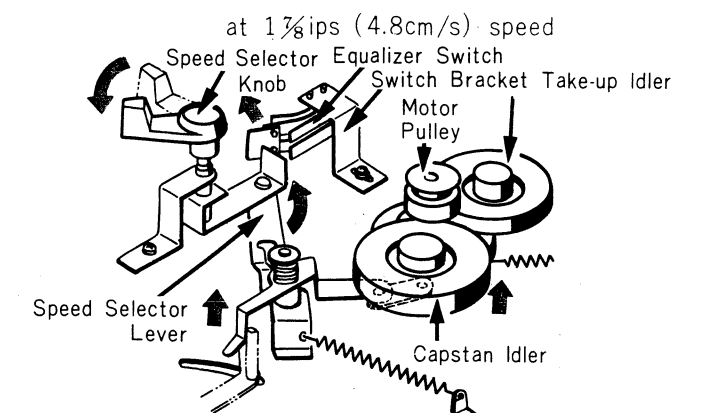
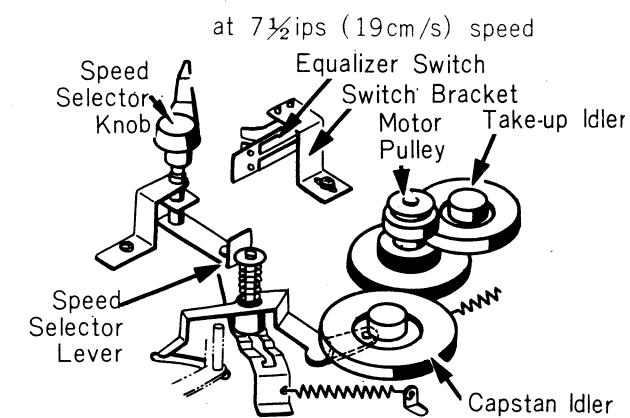
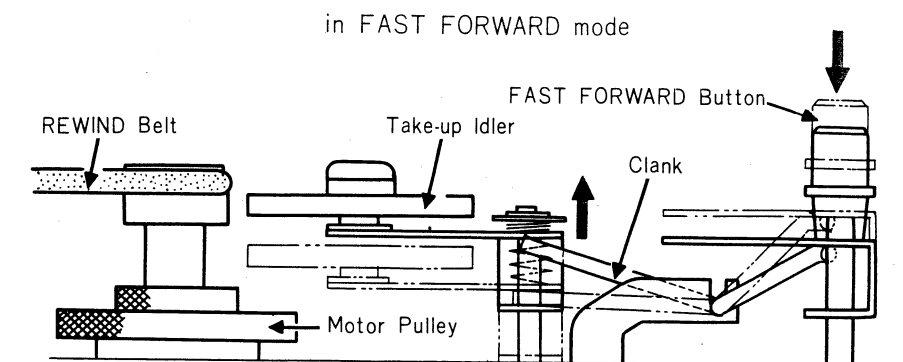
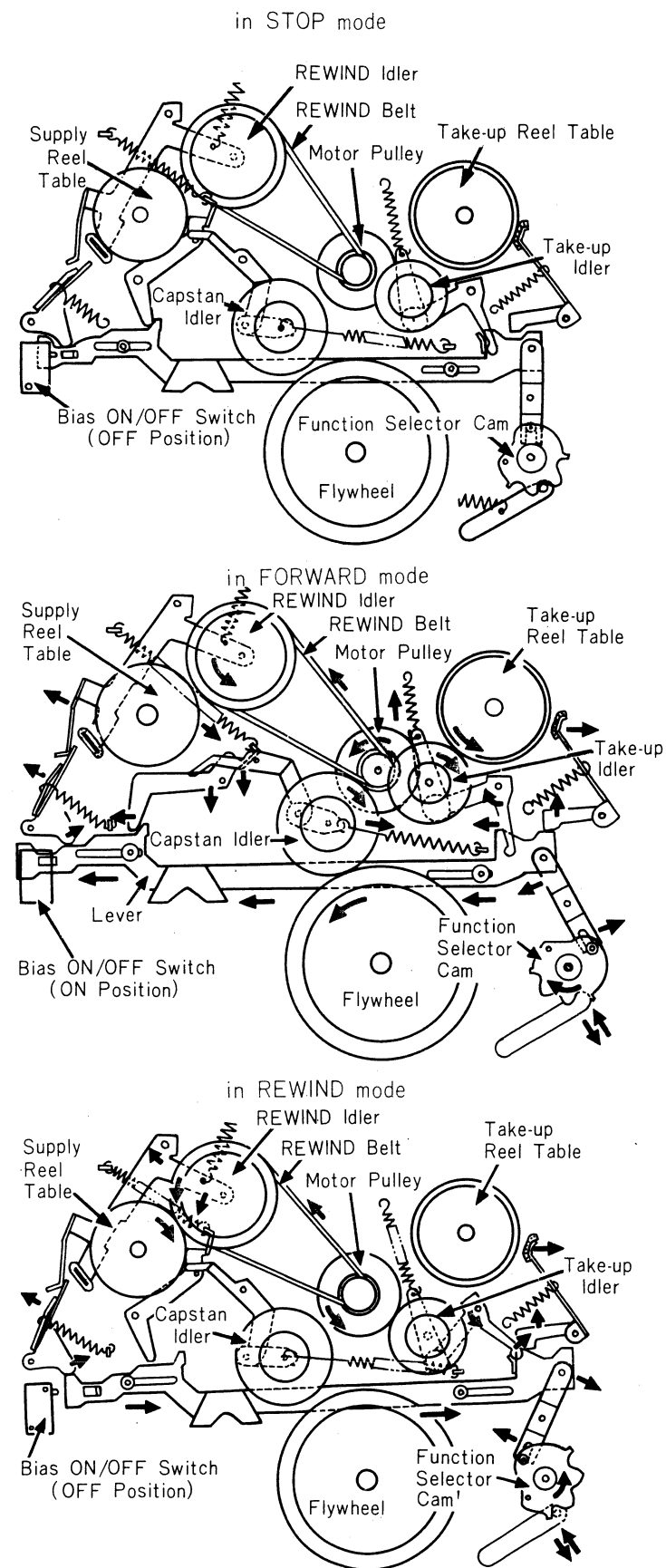
### Playback



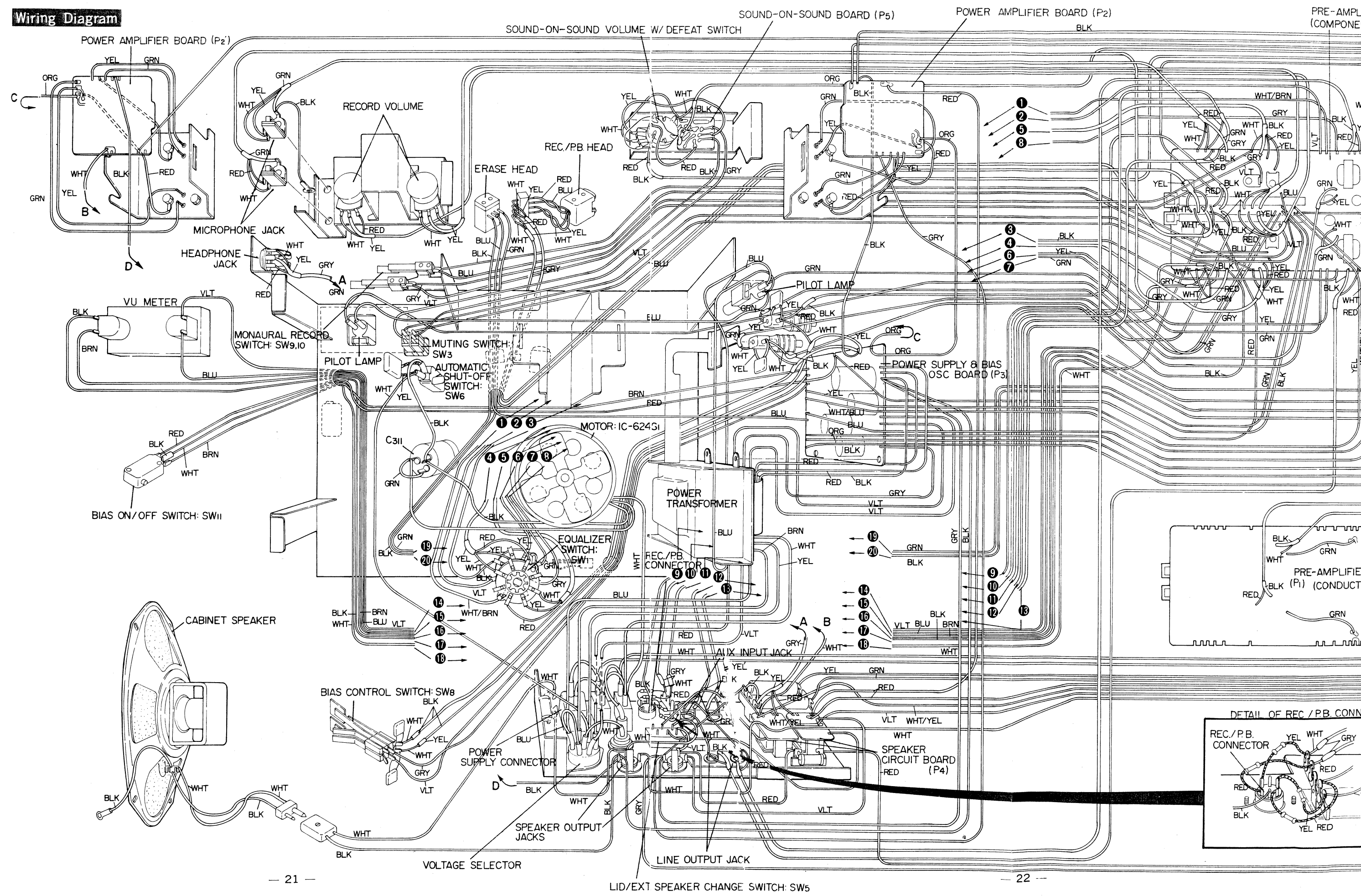


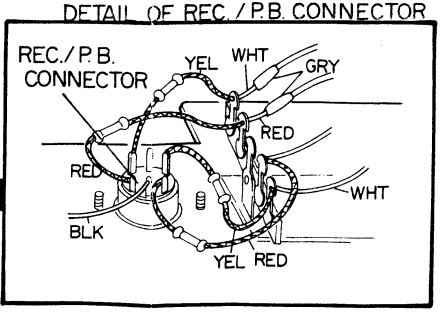
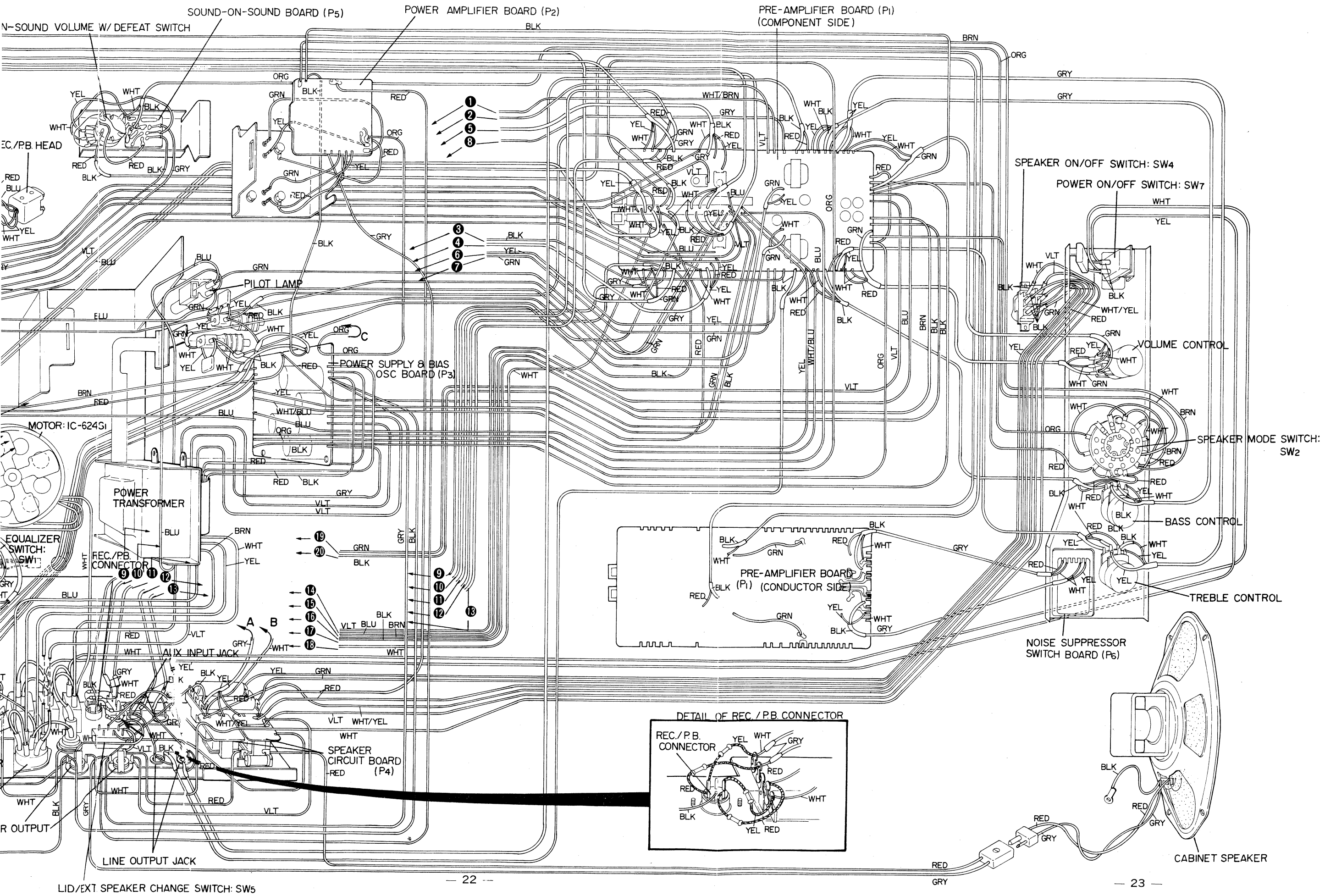
Functions of Mechanism

Tape Transport Mechanism Section



Wiring Diagram

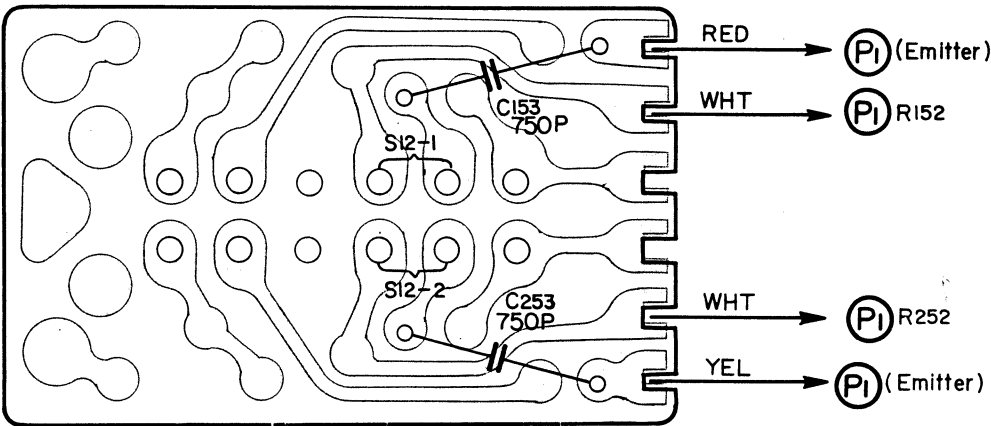




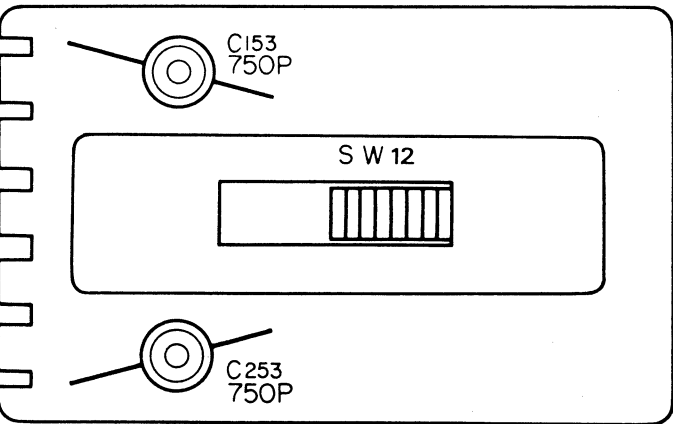


Mounting Diagram

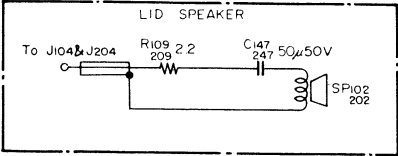
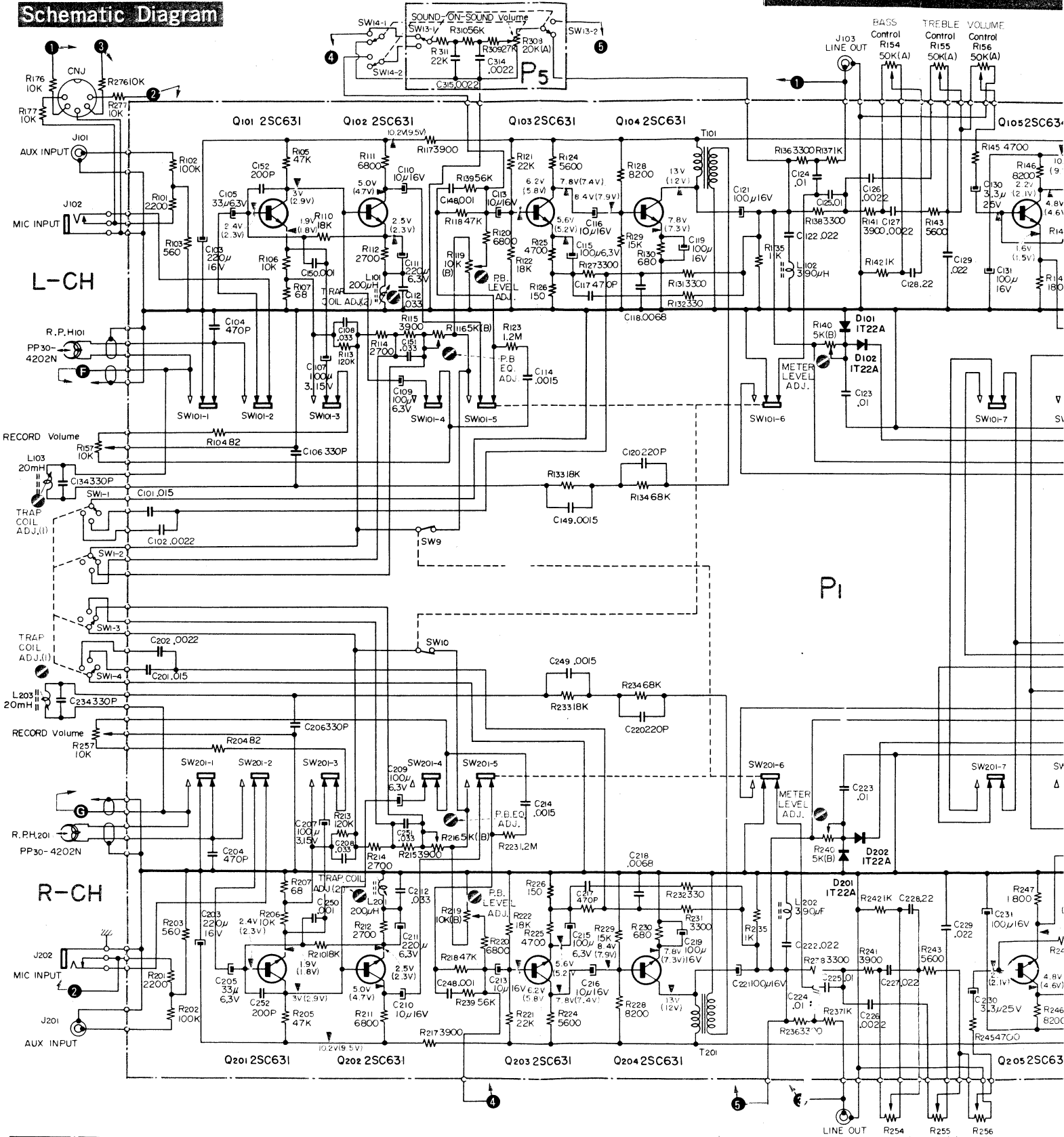
Noise Suppress Switch Board Section  
— Conductor Side —



— Component Side —



Schematic Diagram



Notes:

1. Switch Positions shown this diagram are as per the table below.

| Switch No.             | Description                   | Position            |
|------------------------|-------------------------------|---------------------|
| SW <sub>101, 120</sub> | Record/Playback Switch        | Record              |
| SW <sub>1</sub>        | Equalizer Switch              | 7 1/2 ips (19 cm/s) |
| SW <sub>2</sub>        | Speaker Mode Switch           | Stereo              |
| SW <sub>3</sub>        | Muting Switch                 | OFF                 |
| SW <sub>4</sub>        | Speaker ON/OFF Switch         | ON                  |
| SW <sub>5</sub>        | EXT-LID Speaker Change Switch | ON                  |
| SW <sub>6</sub>        | Automatic SHUT-OFF Switch     | OFF                 |

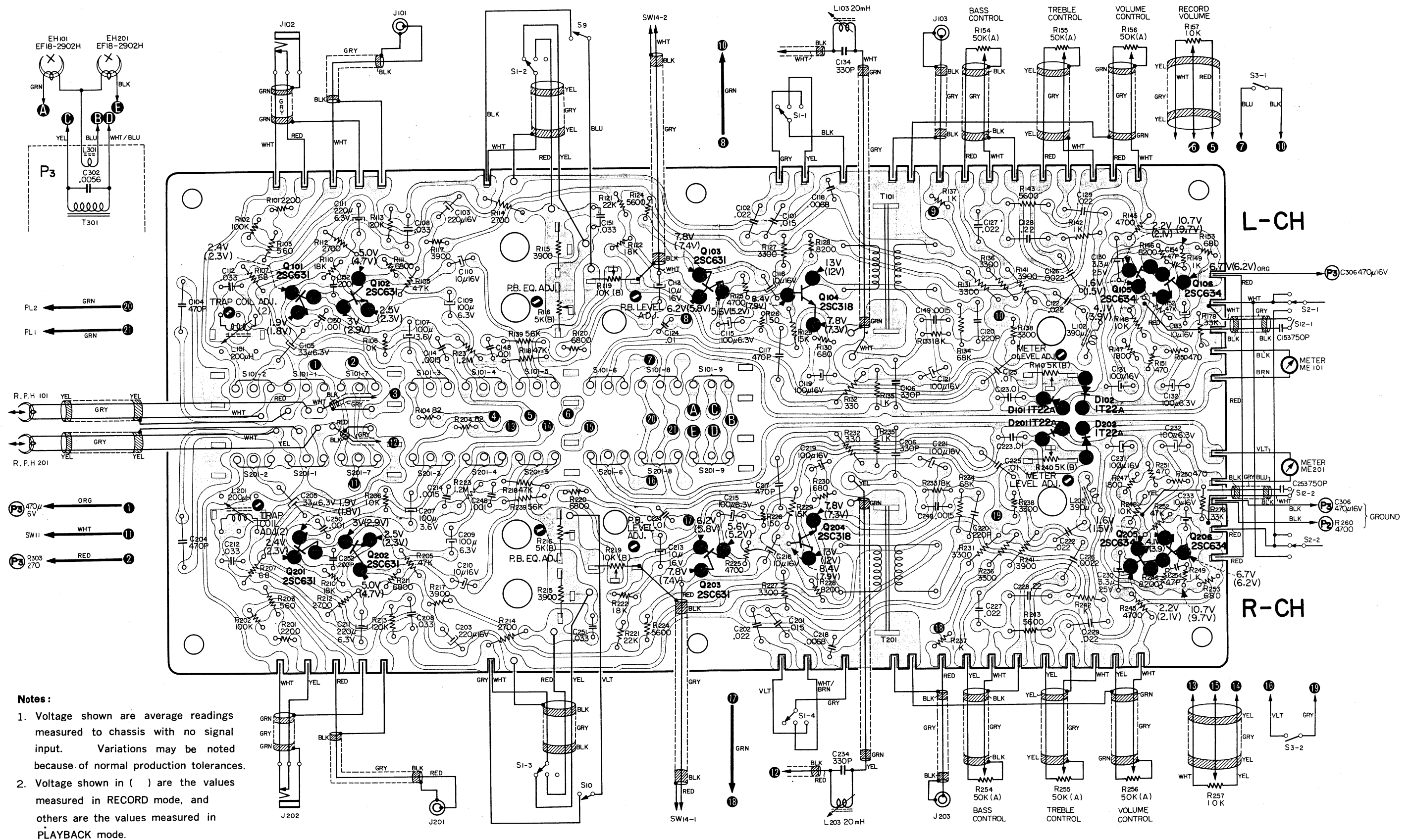
| Switch No.          | Description                            | Position         |
|---------------------|--|------------------|
| SW <sub>7</sub>     | Power ON/OFF Switch                    | OFF              |
| SW <sub>8</sub>     | Bias Control Switch                    | OFF (17 1/2 ips) |
| SW <sub>9, 10</sub> | Monaural Record Switch                 | ON (3 3/4 ips)   |
| SW <sub>11</sub>    | Bias ON/OFF Switch                     | ON               |
| SW <sub>12</sub>    | Noise Suppressor ON/OFF Switch         | FORWARD          |
| SW <sub>13</sub>    | SOUND-ON-SOUND Channel Selector Switch | OFF              |
| SW <sub>14</sub>    | SOUND-ON-SOUND Defeat Switch           | L-CH-R-CH        |

— 26 —

Mounting Diagram

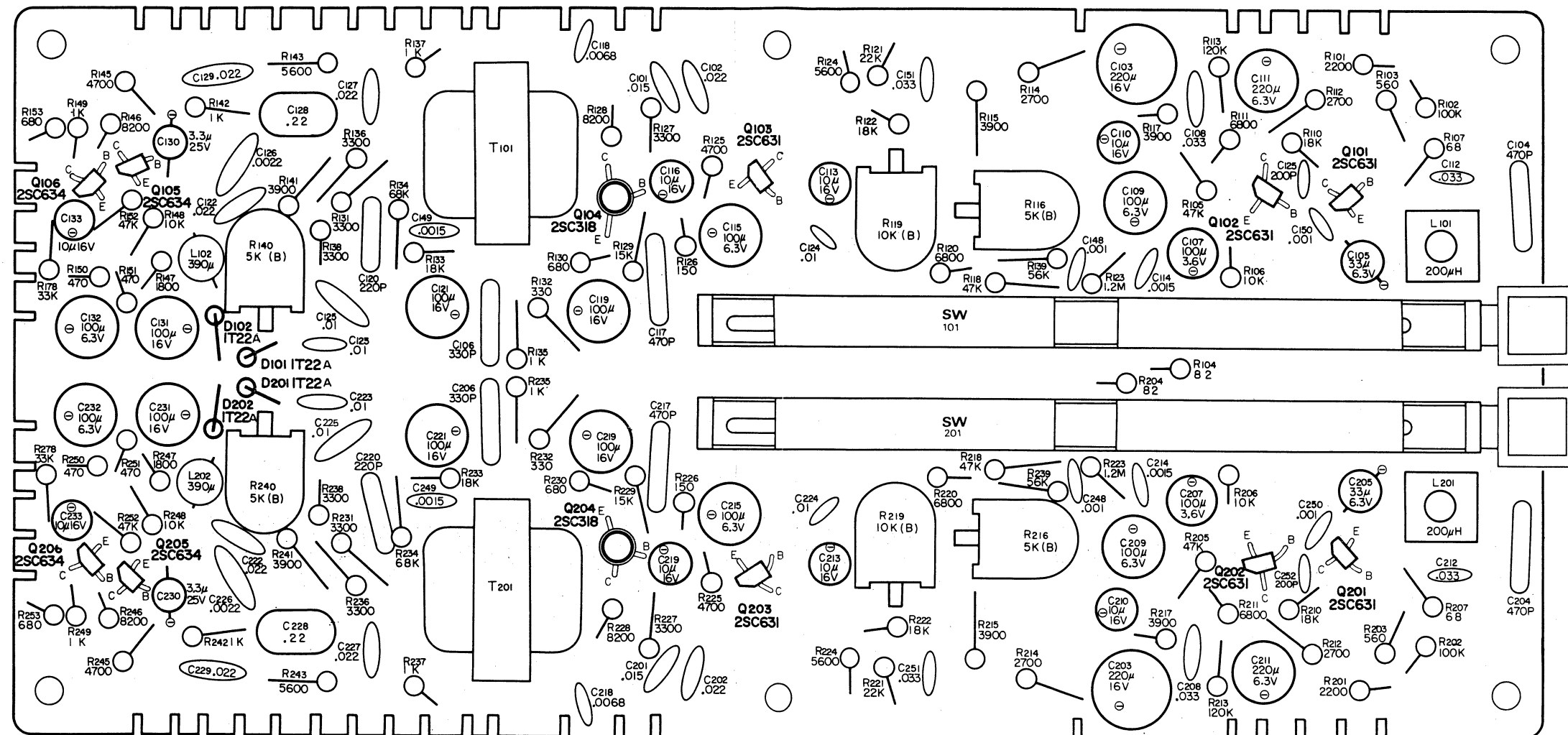
Pre-Amplifier Board Section P<sub>1</sub>

— Conductor Side —



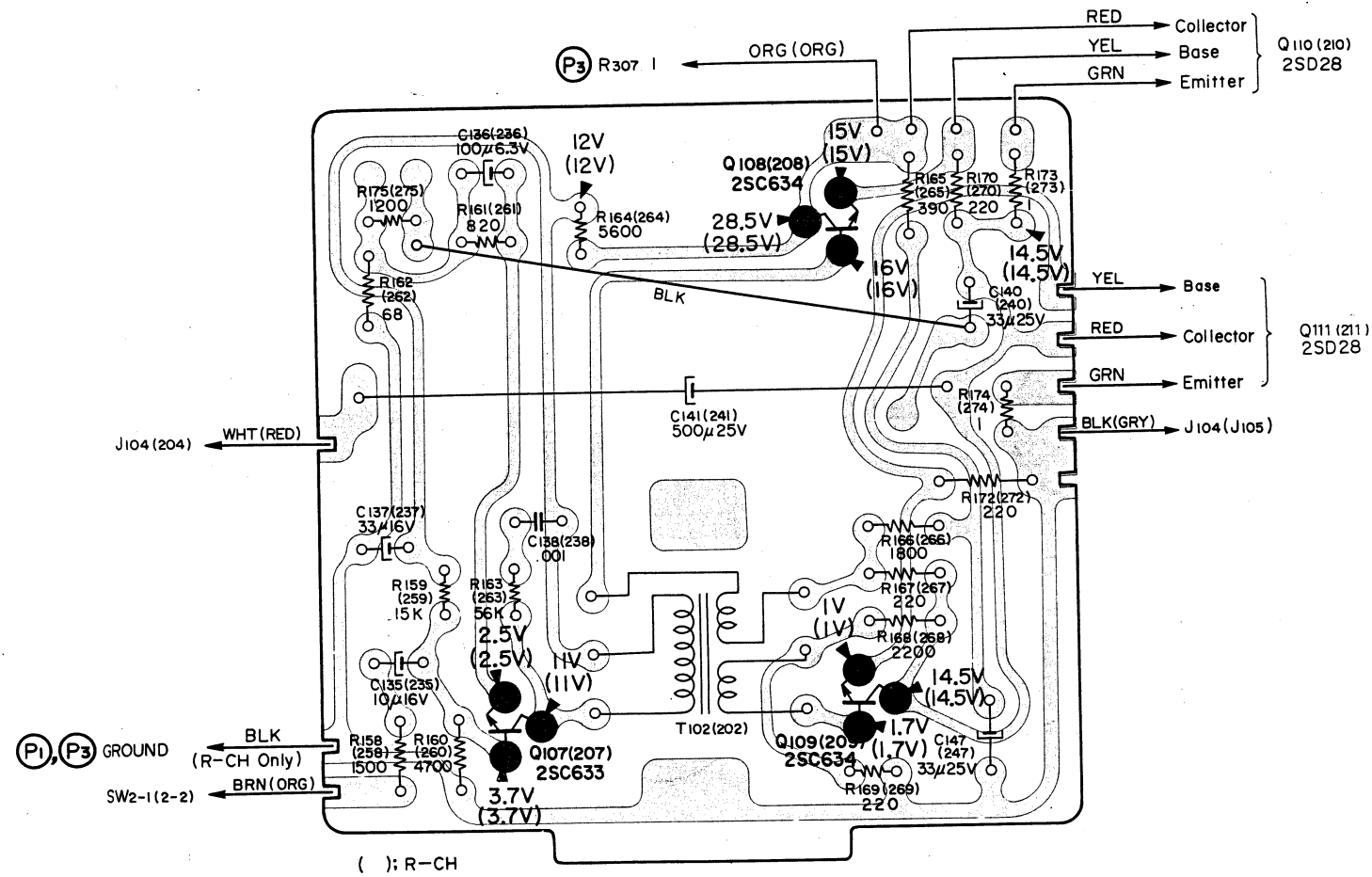
Mounting Diagram

Pre-Amplifier Board Section P<sub>1</sub>  
— Component Side —



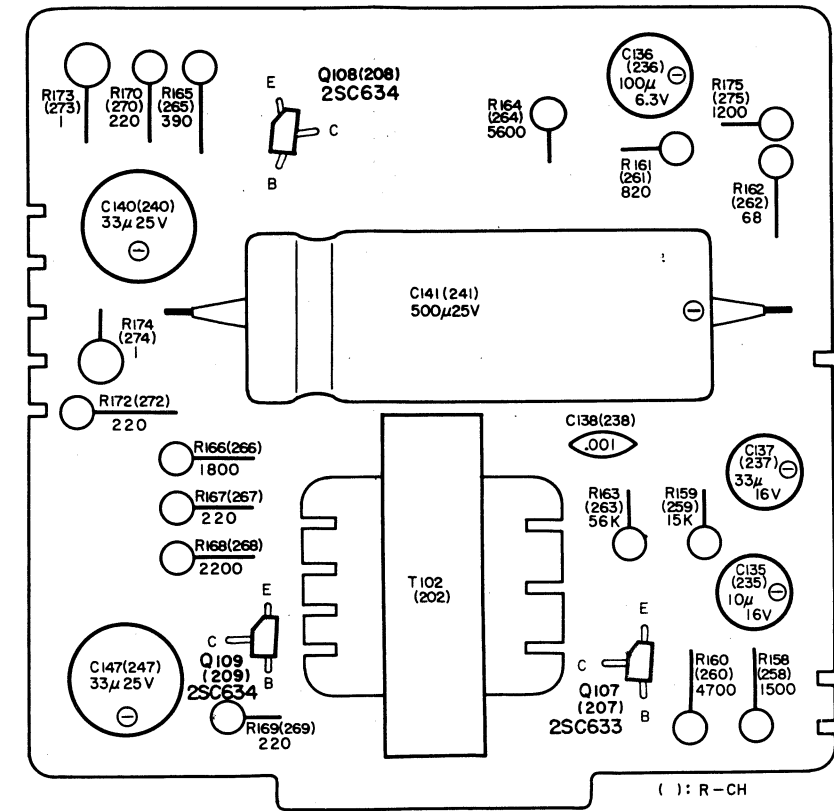
## Mounting Diagram

Power Amplifier Board Section P<sub>2</sub>  
— Conductor Side —



### Mounting Diagram

### Power Amplifier Board Section P<sub>2</sub> — Component Side —



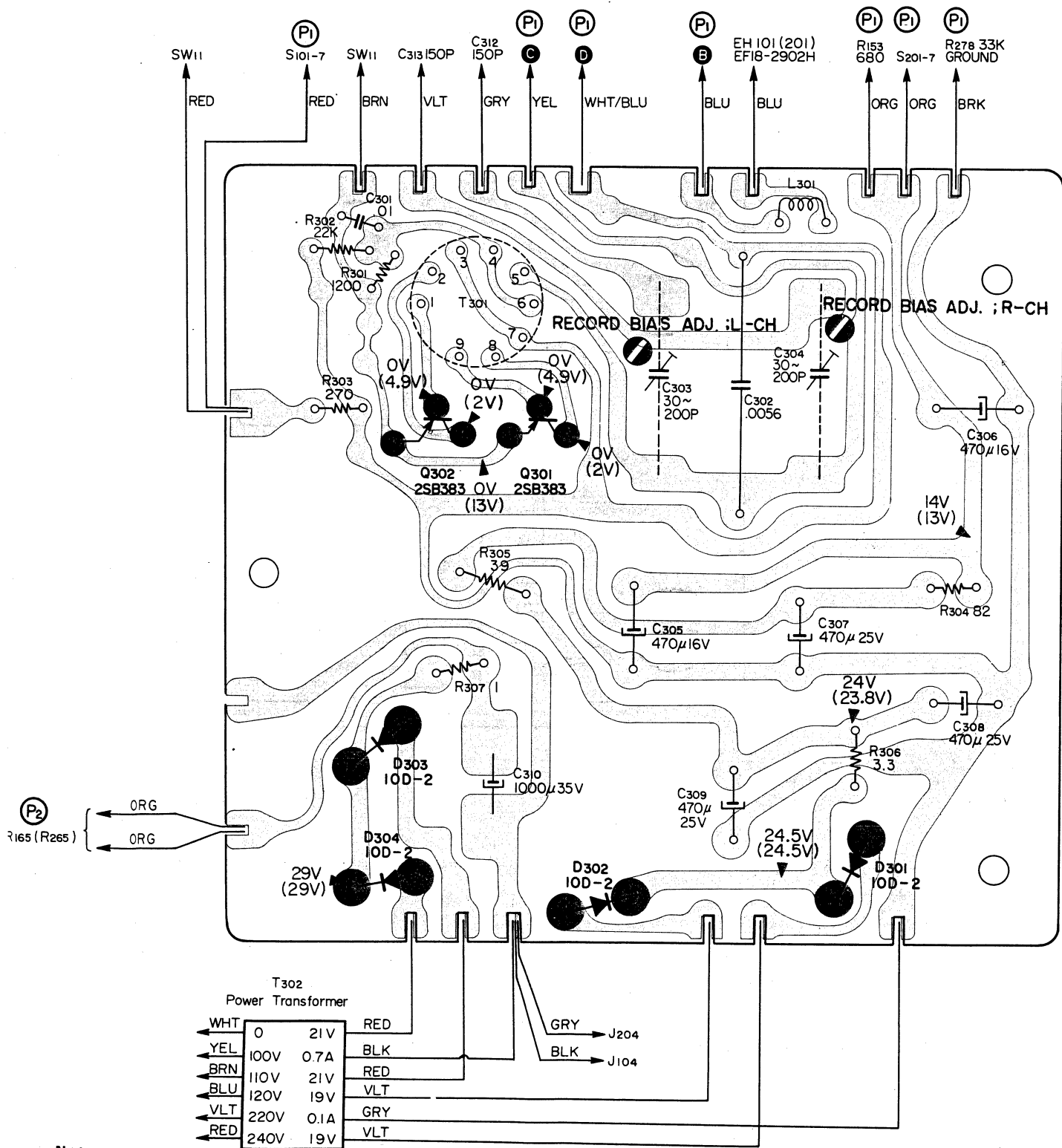
**Notes :**

1. Voltages shown are average readings measured to chassis with no signal input. Variations may be noted because of normal production tolerances.
2. Voltage shown in ( ) are the values measured in RECORD mode, and others are the values measured in PLAYBACK mode.

## Mounting Diagram

### Power Supply & Bias OSC Board Section P<sub>3</sub>

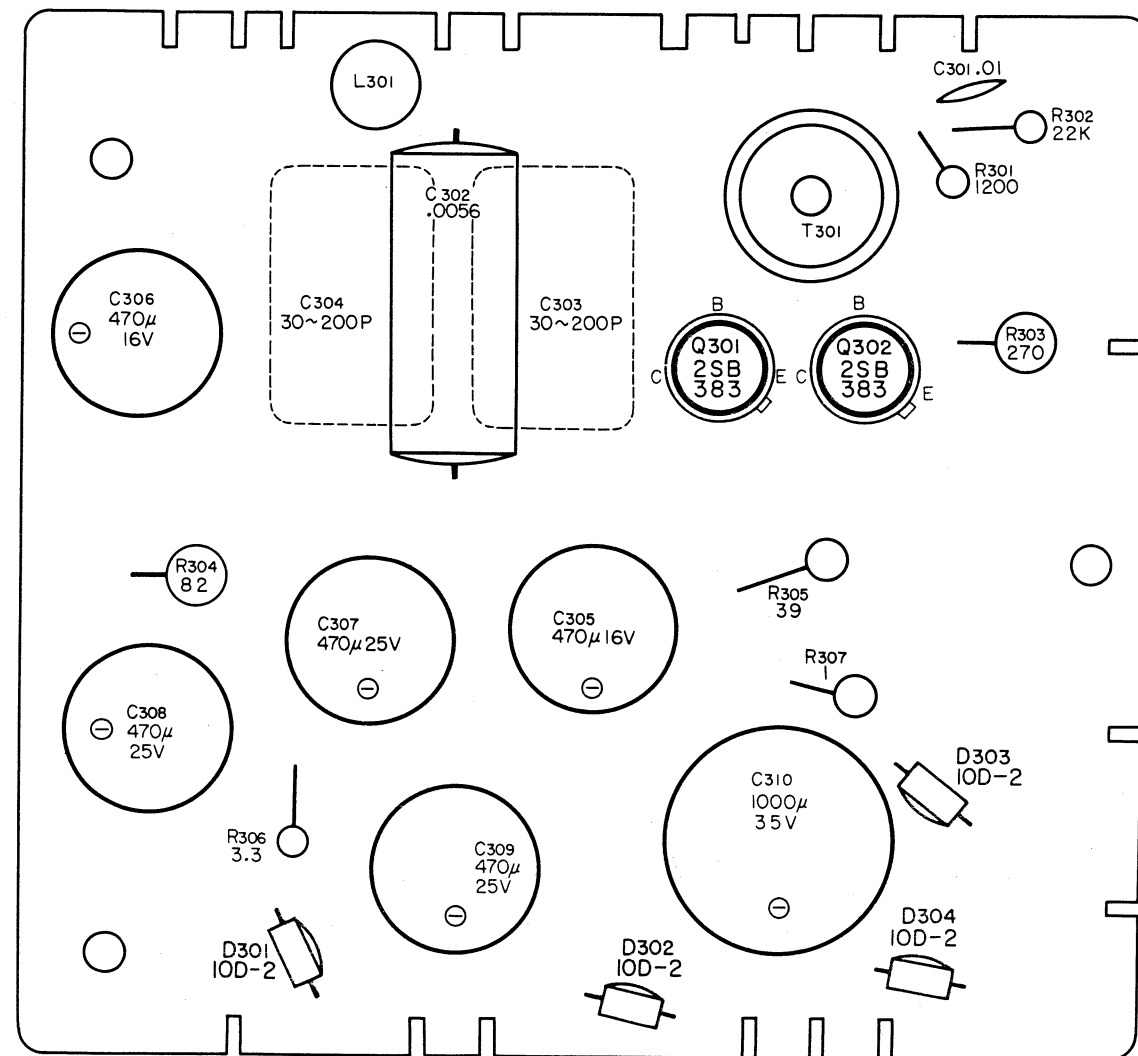
— Conductor Side —



### Mounting Diagram

Power Supply & Bias OSC Board Section P<sub>3</sub>

— Component Side —



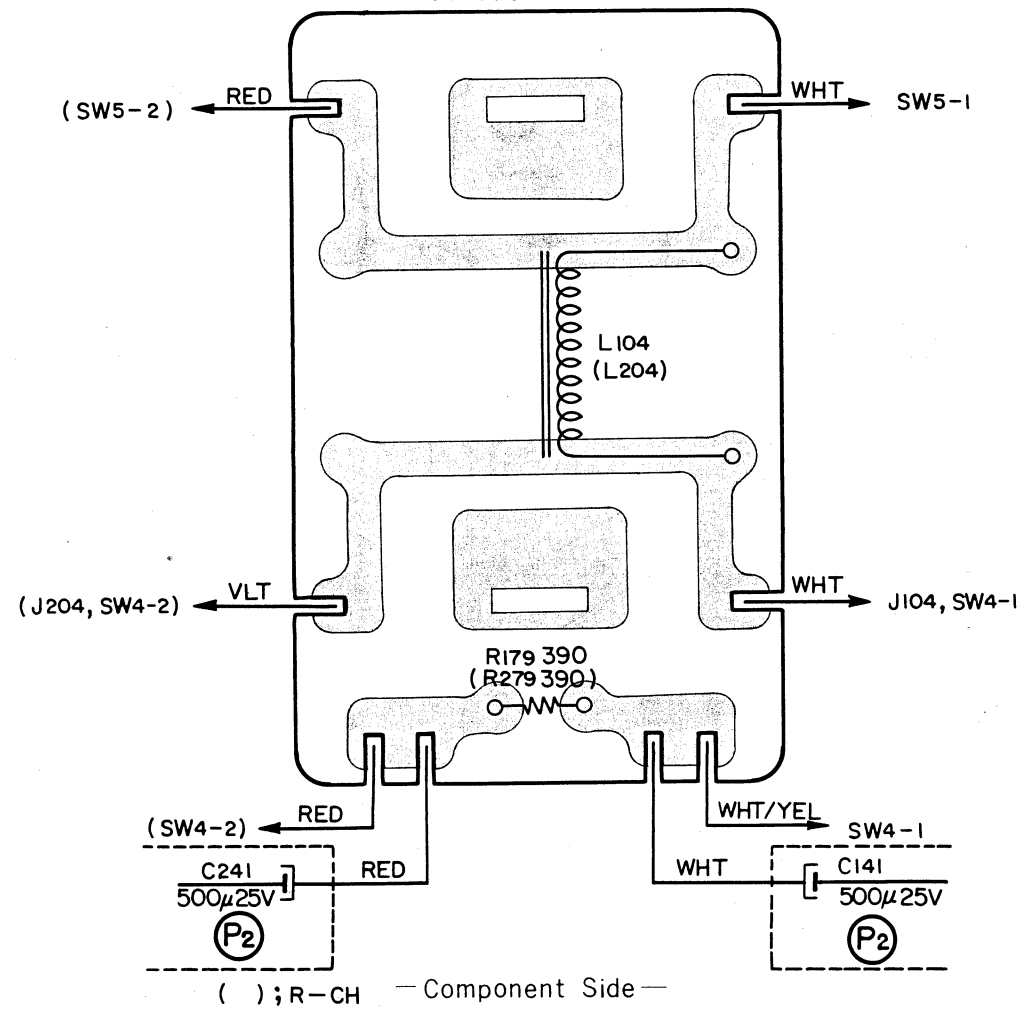
**Notes :**

1. Voltages shown are average readings measured to chassis with no signal input. Variations may be noted because of normal production tolerances.
2. Voltage shown in ( ) are the values measured in RECORD mode, and others are the values measured in PLAYBACK mode.

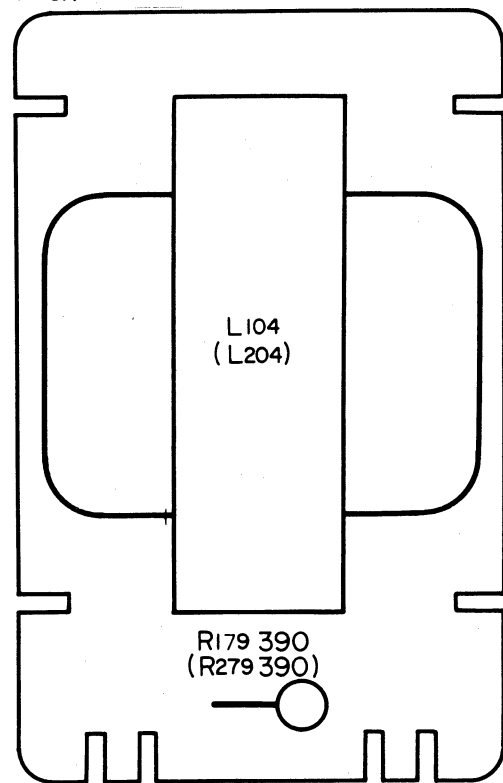


Mounting Diagram

Speaker Circuit Board Section P<sub>1</sub>  
— Conductor Side —

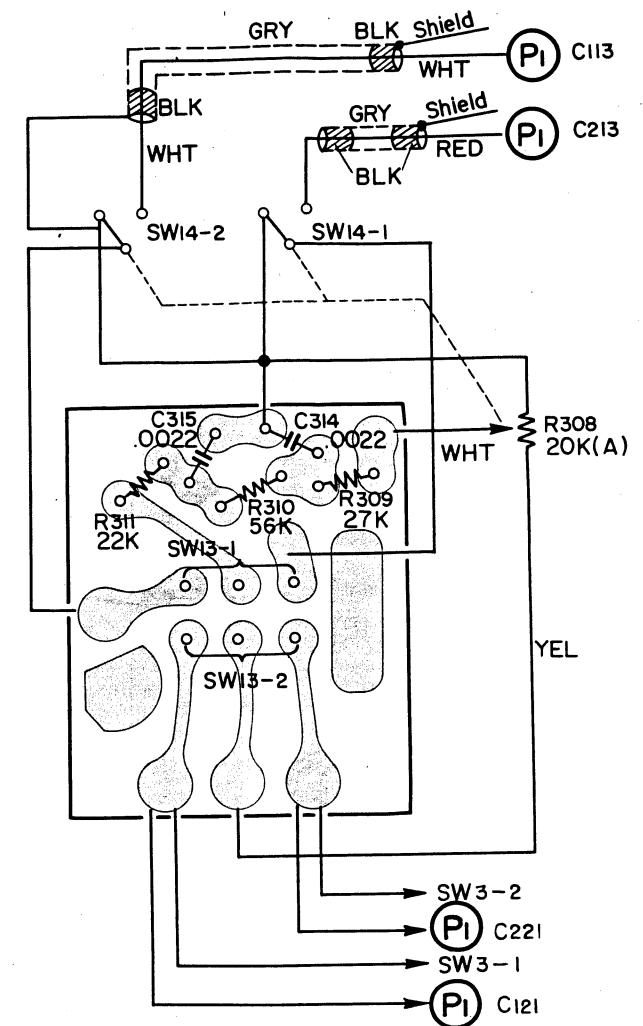


( ) ; R-CH — Component Side —

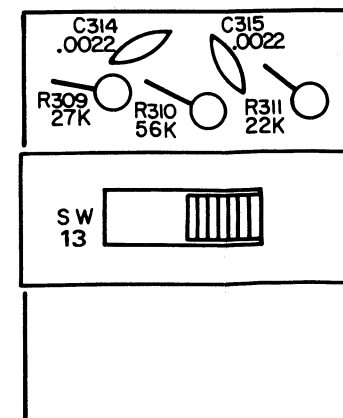


Mounting Diagram

SOUND-ON-SOUND Board Section P<sub>3</sub>  
— Conductor Side —

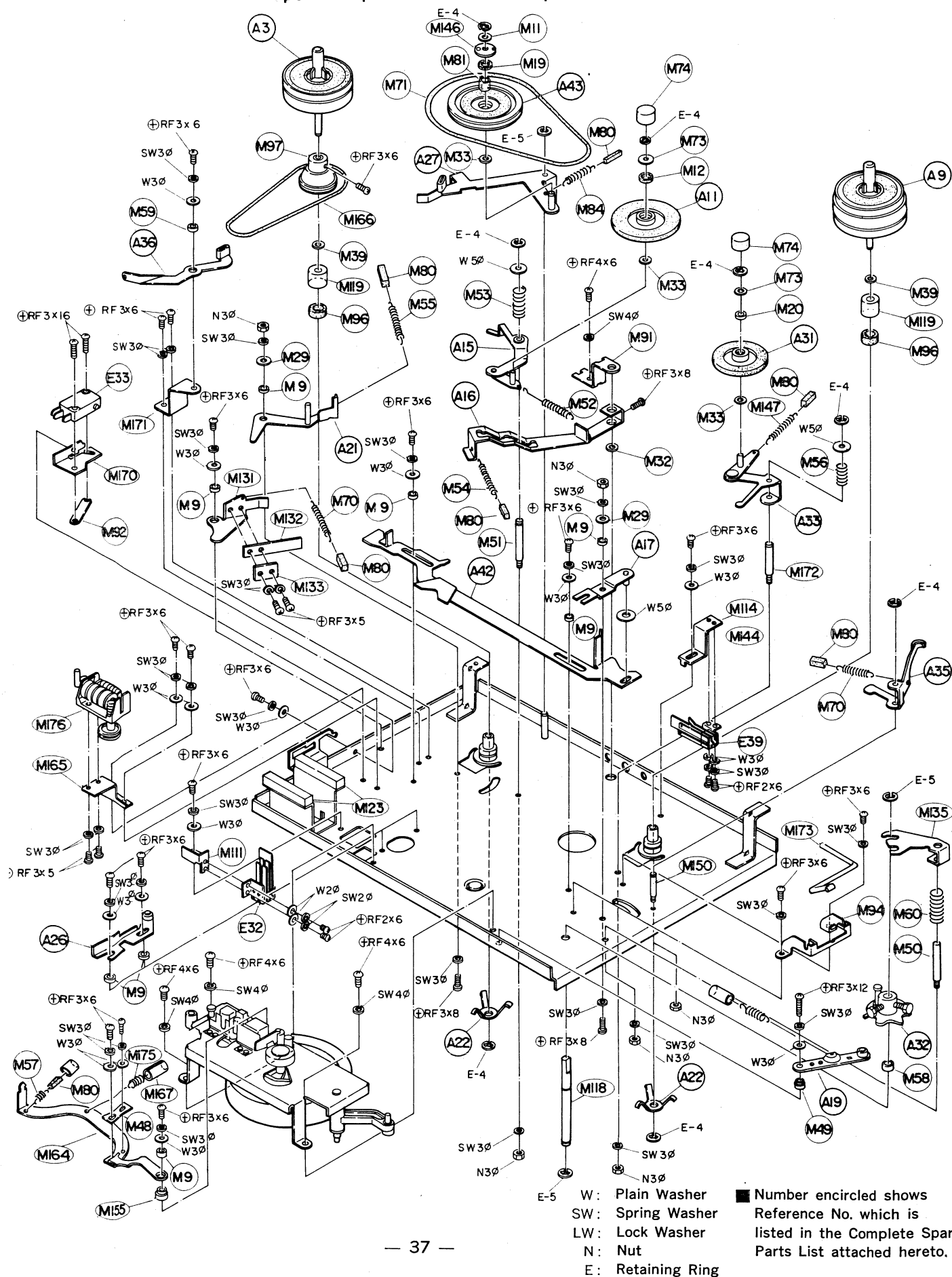


— Component Side —



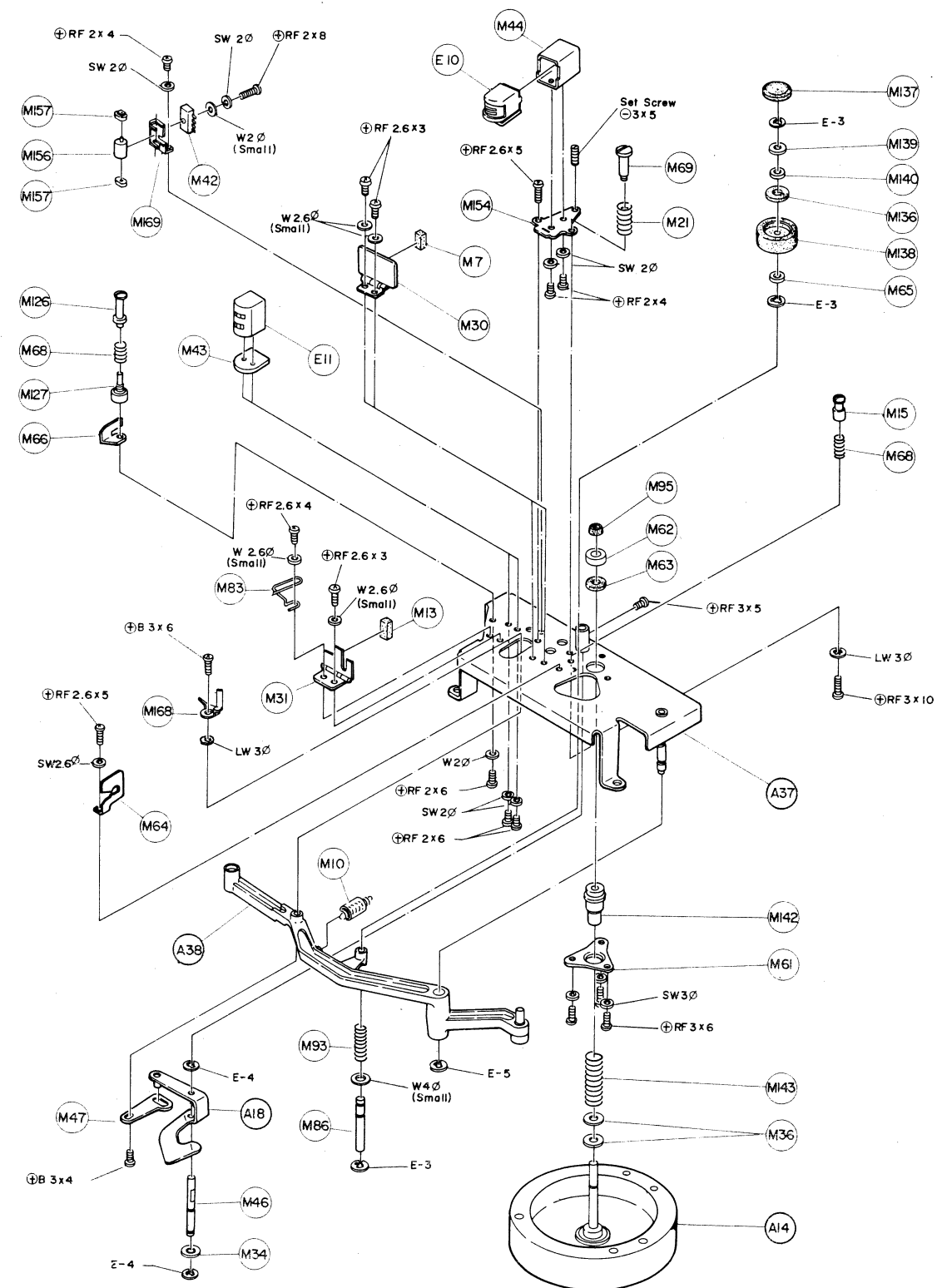
Exploded Diagram

Tape Transport Mechanism—Top View



Exploded Diagram

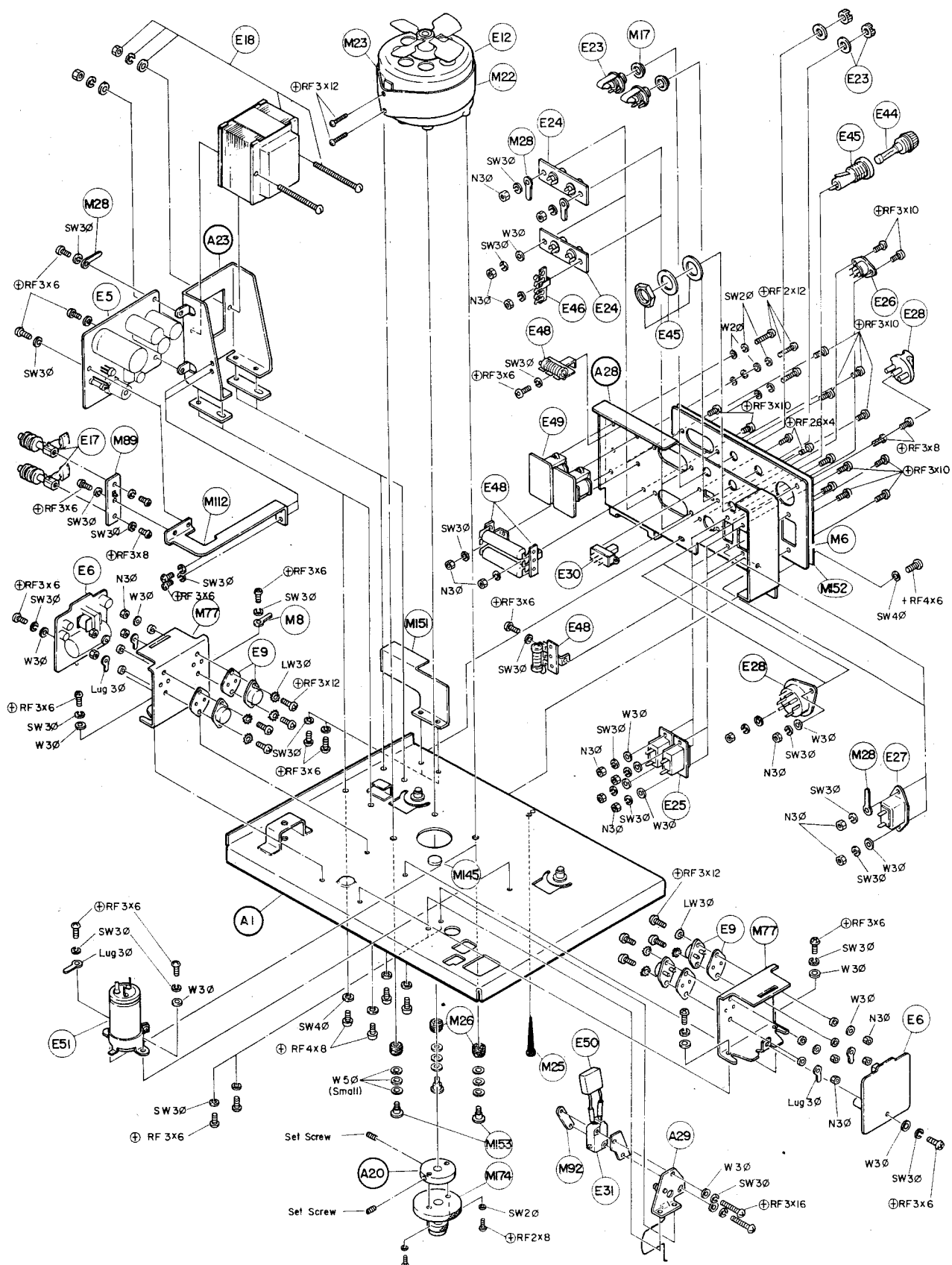
Head Deck—Top View



W: Plain Washer  
SW: Spring Washer  
LW: Lock Washer  
N: Nut  
E: Retaining Ring

Number encircled shows Reference No. which is listed in the Complete Spare Parts List attached hereto.



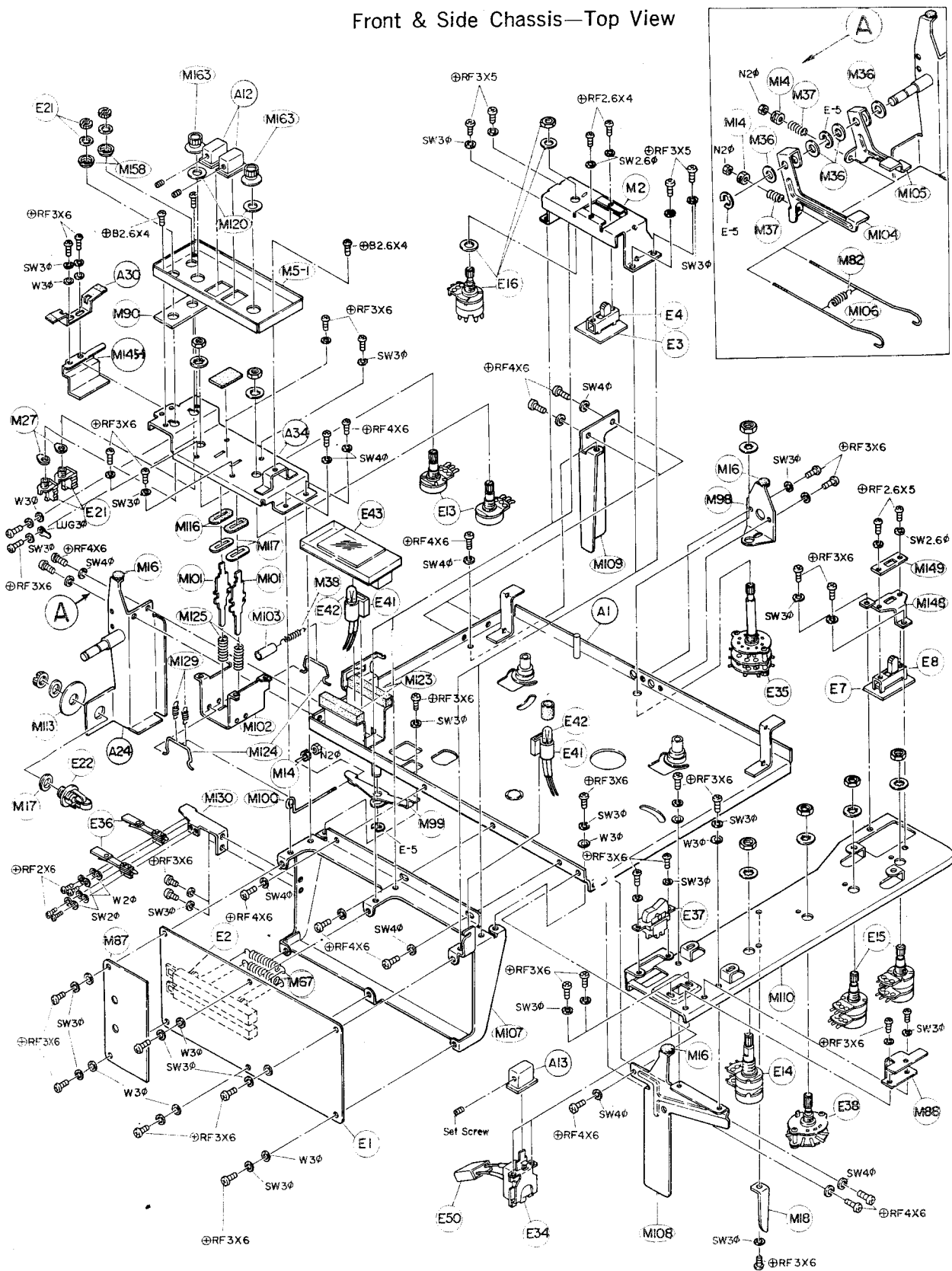
**Exploded Diagram**
**Chassis—Bottom View**


W: Plain Washer  
 SW: Spring Washer  
 LW: Lock Washer  
 N: Nut  
 E: Retaining Ring

■ Number encircled shows  
 Reference No. which is  
 listed in the Complete Spare  
 Parts List attached hereto.

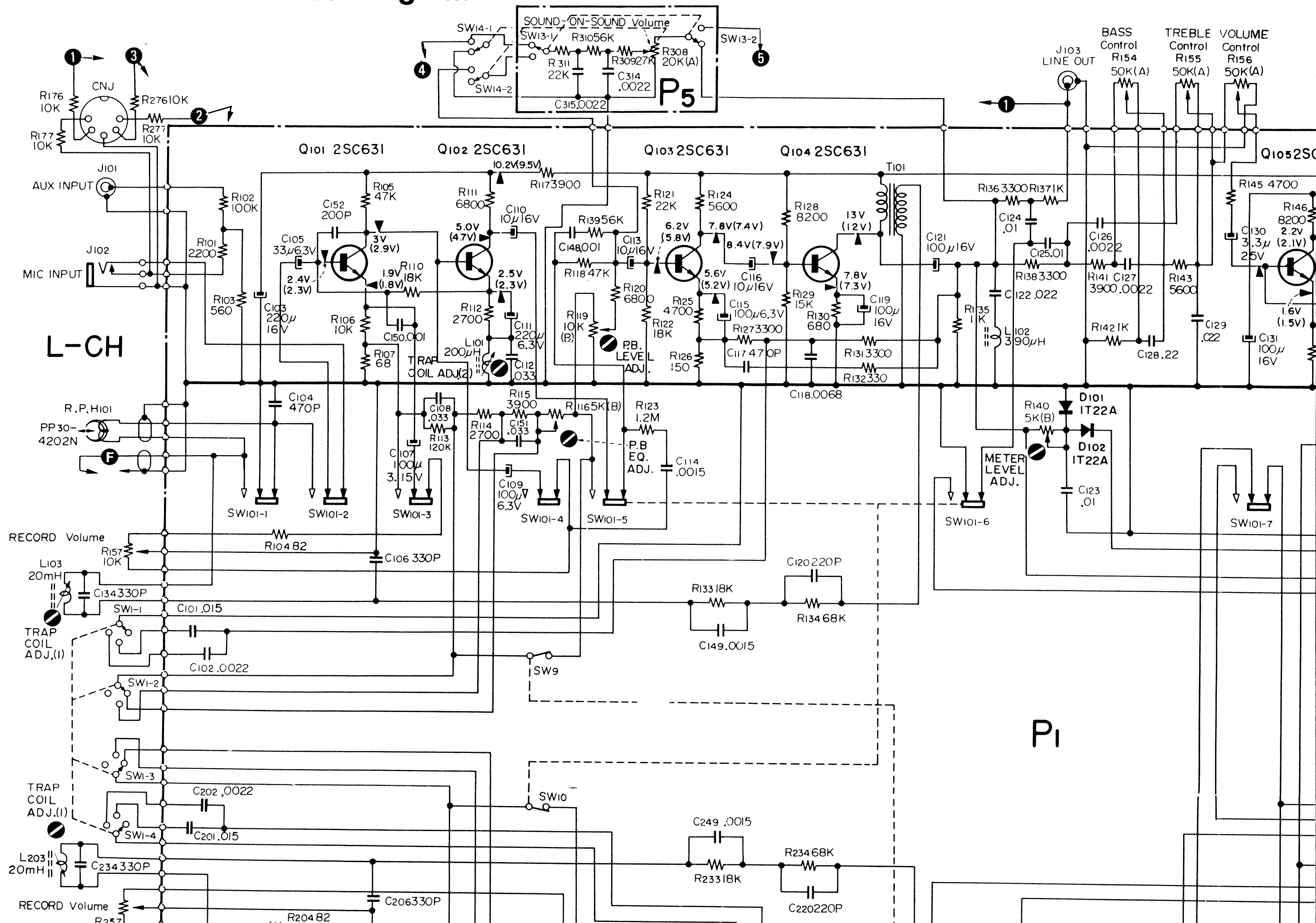
## Exploded Diagram

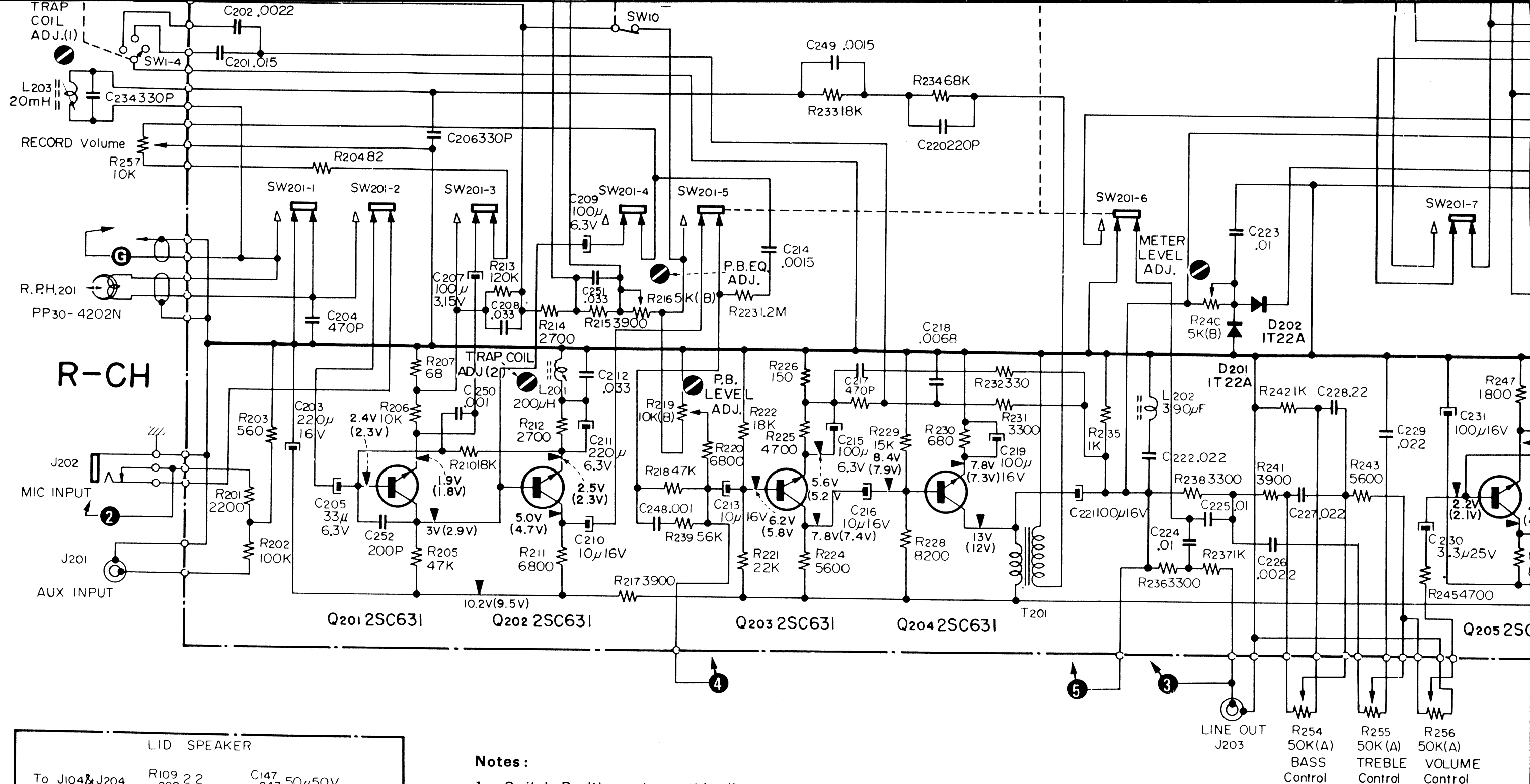
### Front & Side Chassis—Top View



- W: Plain Washer      ■ Number encircled shows  
SW: Spring Washer      Reference No. which is  
LW: Lock Washer      listed in the Complete Spare  
N: Nut      Parts List attached hereto.  
E: Retaining Ring

## TC-540 Schematic Diagram



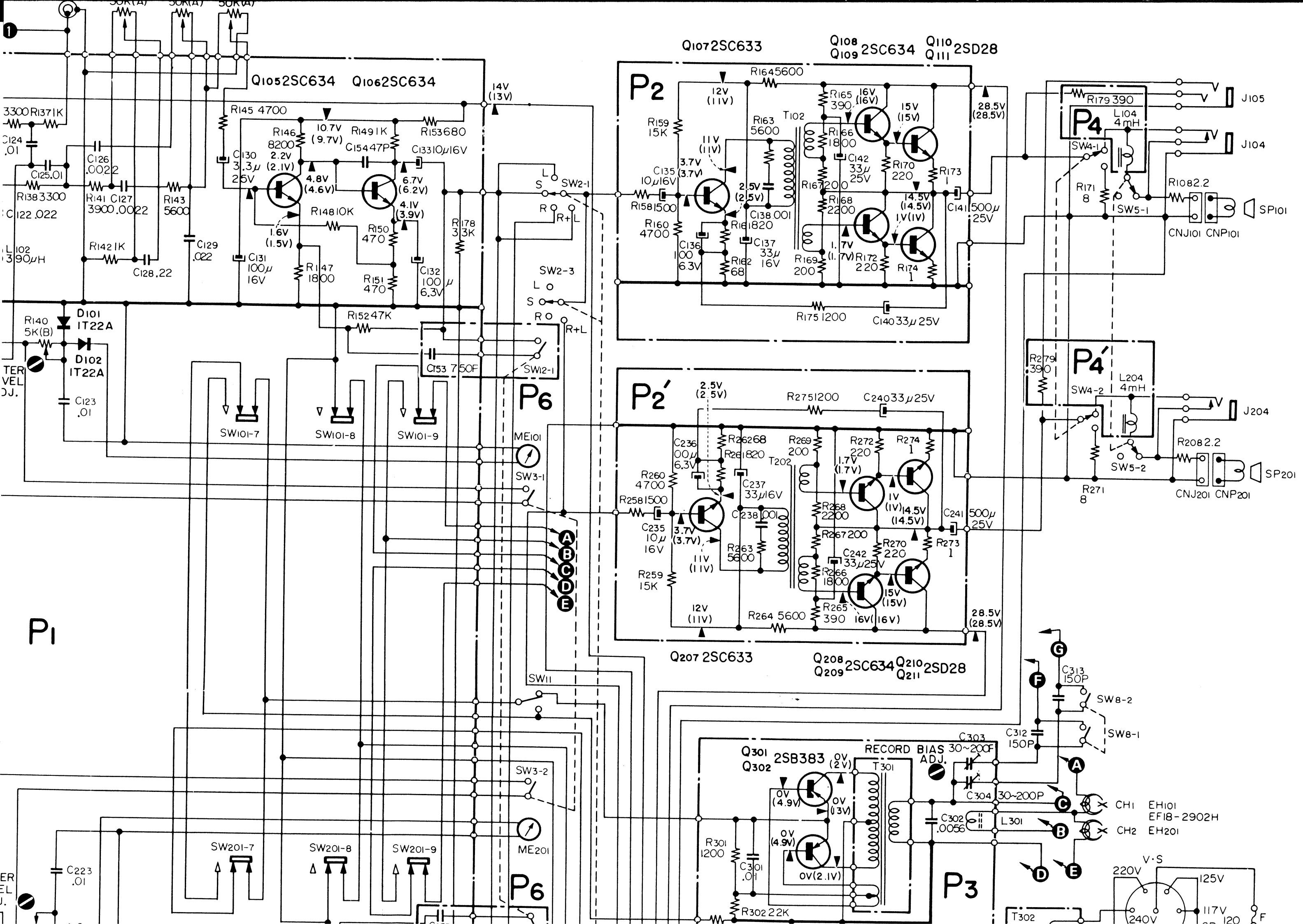


### Notes:

- Switch Positions shown this diagram are as per the table below.

| Switch No.             | Description                   | Position         |
|------------------------|-------------------------------|------------------|
| SW <sub>101, 120</sub> | Record/Playback Switch        | Record           |
| SW <sub>1</sub>        | Equalizer Switch              | 7½ ips (19 cm/s) |
| SW <sub>2</sub>        | Speaker Mode Switch           | Stereo           |
| SW <sub>3</sub>        | Muting Switch                 | OFF              |
| SW <sub>4</sub>        | Speaker ON/OFF Switch         | ON               |
| SW <sub>5</sub>        | EXT-LID Speaker Change Switch | ON               |
| SW <sub>6</sub>        | Automatic SHUT-OFF Switch     | OFF              |

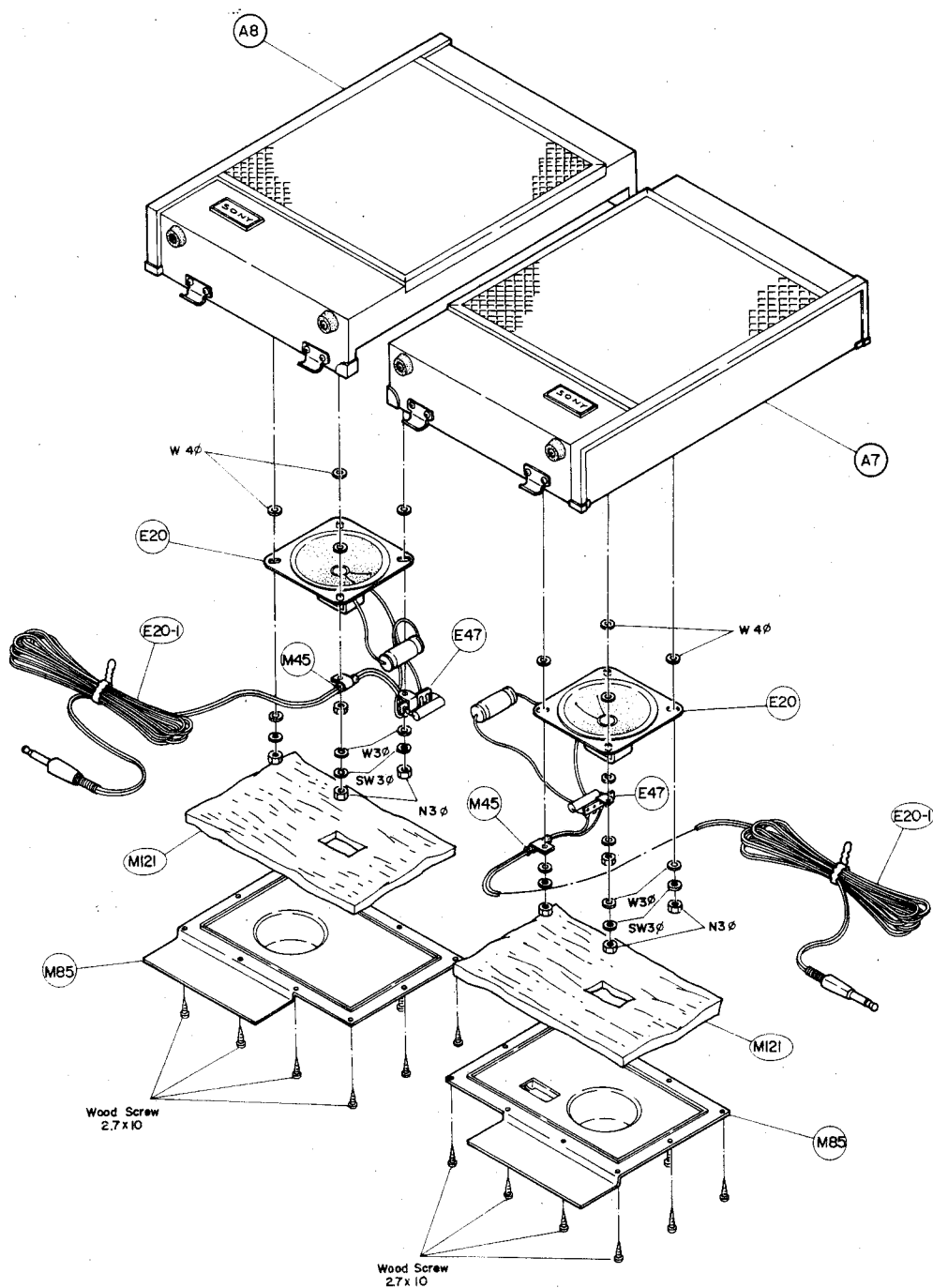
| Switch No.          | Description                            | Position |
|---------------------|--|----------|
| SW <sub>7</sub>     | Power ON/OFF Switch                    | OFF      |
| SW <sub>8</sub>     | Bias Control Switch                    | OFF (1)  |
| SW <sub>9, 10</sub> | Monaural Record Switch                 | ON (3)   |
| SW <sub>11</sub>    | Bias ON/OFF Switch                     | ON       |
| SW <sub>12</sub>    | Noise Suppressor ON/OFF Switch         | FORWARD  |
| SW <sub>13</sub>    | SOUND-ON-SOUND Channel Selector Switch | OFF      |
| SW <sub>14</sub>    | SOUND-ON-SOUND Defeat Switch           | L-CH-R   |
|                     |  | OFF      |





# Exploded Diagram

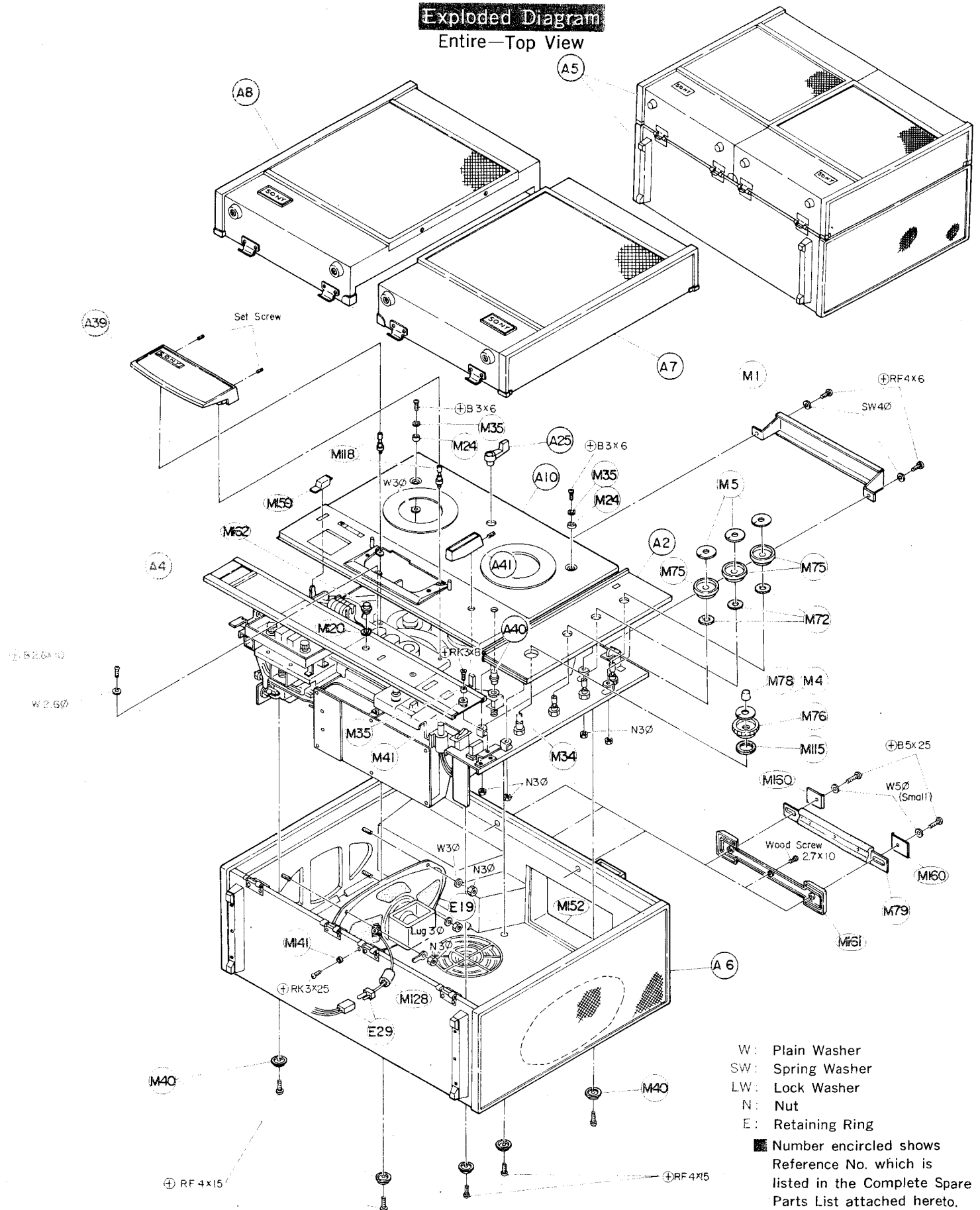
## Lid Speakers—Top View



- |                   |                              |
|-------------------|------------------------------|
| W: Plain Washer   | ■ Number encircled shows     |
| SW: Spring Washer | Reference No. which is       |
| LW: Lock Washer   | listed in the Complete Spare |
| N: Nut            | Parts List attached hereto.  |
| E: Retaining Ring |                              |



Exploded Diagram  
Entire—Top View



SONY CORPORATION